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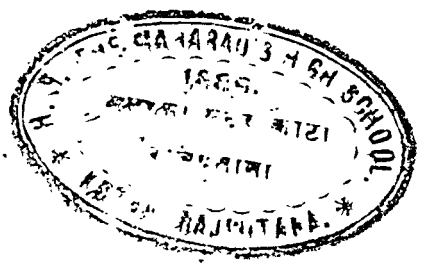


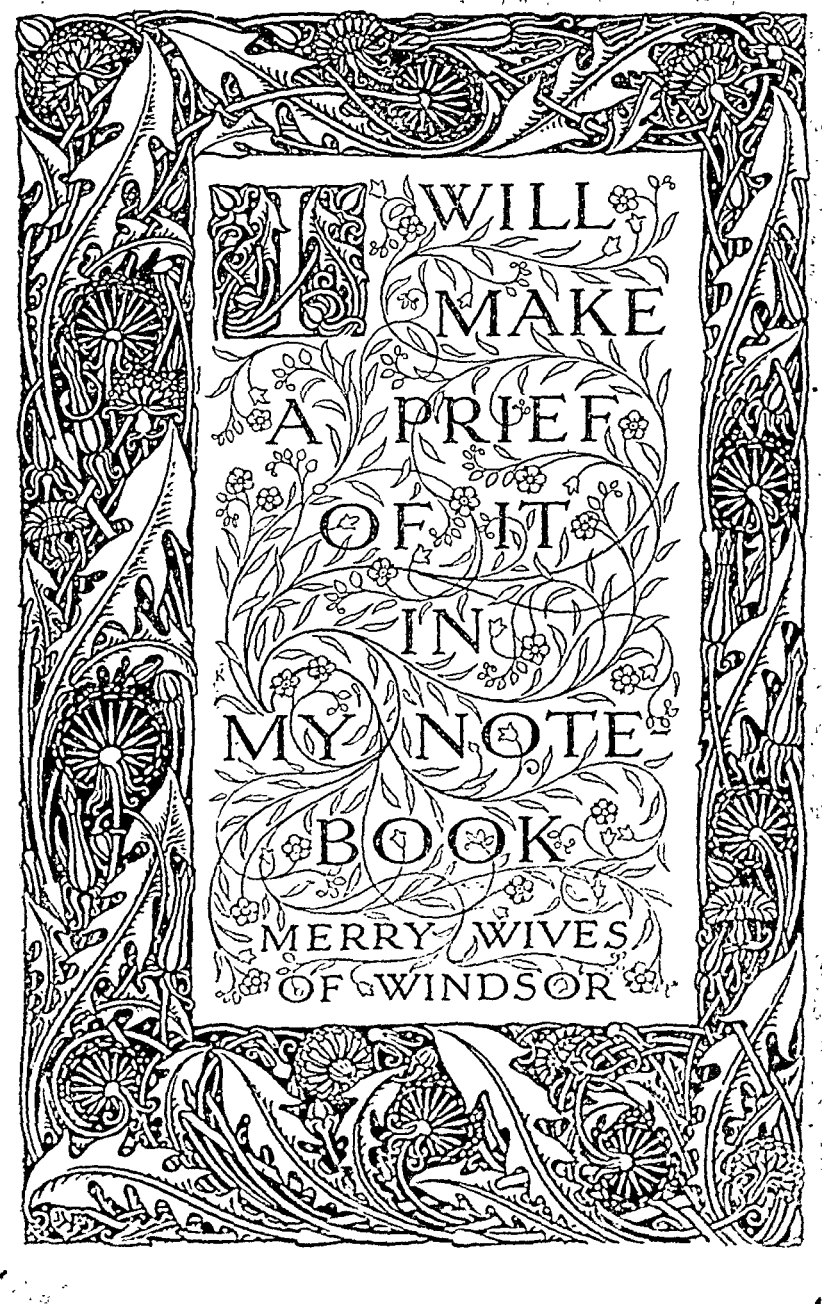
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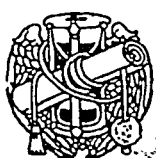

I WILL MAKE A PRIEF OF IT IN MY NOTE BOOK
MERRY WIVES OF WINDSOR

THE EVERYMAN ENCYCLOPÆDIA

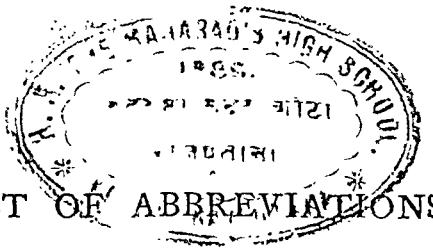
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VOLUME 8

INL-MAC



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LIST OF ABBREVIATIONS

ac., acres.
A.D., after Christ.
agric., agricultural.
ambas., ambassador.
ann., annual.
arron., arrondissement.
A.-S., Anglo-Saxon.
A.V., Authorised Version.
b., born.
B.C., before Christ.
Biog. Dict., Biographical Dictionary.
bor., borough.
bp., birthplace.
C., Centigrade.
c. (*circa*), about.
cap., capital.
cf., compare.
co., county.
com., commune.
cub. ft., cubic feet.
d., died.
Dan., Danish.
dept., department.
dist., district.
div., division.
E., east ; eastern.
eccles., ecclesiastical.
ed., edition; edited.
e.g., for example.
Ency. Brit., Encyclopædia Britannica.
Eng., English.
estab., established.
et seq., and the following.
F., Fahrenheit.
fl., flourished.
fort. tn., fortified town.
Fr., French.
ft., feet.
Ger., German.
Gk., Greek.
gov., government.
Heb., Hebrew.
Hist., History.
i.e., that is.
in., inches.
inhab., inhabitants.
Is., island, -s.
It., Italian.
Jour., journal.
Lat., Latin.
lat., latitude.
l. b., left bank.
long., longitude.
m., miles.
manuf., manufacture.
mrkt. tn., market-town.
Mt., mts., mount, mountain, -s.
N., north ; northern.
N.T., New Testament.
O.T., Old Testament.
par., parish.
parl., parliamentary.
pop., population.
prin., principal.
prov., province.
pub., published.
q.v., which see.
R., riv., river.
r. b., right bank.
Rom., Roman.
R.V., Revised Version.
S., south ; southern.
sev., several.
Sp., Spanish.
sp. gr., specific gravity.
sq. m., square miles.
temp., temperature.
ter., territory.
tn., town.
trans., translated.
trib., tributary.
U.S.A., United States of America.
vil., village.
vol., volume.
W., west ; western.
yds., yards.

1889.
M. H. THE MAHARAO'S HIGH SCHOOL.
KOTAH RAJPUTANA.

Inlaying, a method of ornamenting flat surfaces by the inserting in one material a substance differing therefrom in colour or nature. Thus the basis may be of wood, metal, or stone, and the inlaid or encrusted material of different wood, or of ivory, marble, tortoise-shell, precious metals, etc. The art of I. is practised in the fabrication of furniture and artistic objects of various kinds. I. in wood is generally known as 'marquetry,' in metals it is termed 'damascening,' and in marble and precious stones it forms a variety of 'mosaic' work. The word I. is, however, generally understood to be limited to the first of these three. It consists in the fitting together, to form patterns, of differently coloured pieces of wood. In the Stuart period a good deal of I. was executed in England upon cabinets, chests of drawers, etc. In Italy the most beautiful examples of the art are on panels or choir-stalls, and in Germany, musical instruments, chests, and cabinets are often lavishly inlaid.

Inman, William (1825-81), founder of the Inman Line of steamships, born at Leicester, and educated at Liverpool. He entered a mercantile office, and in 1849 became a partner in the firm of Richardson Bros., Liverpool, and managed their fleet of American sailing-packets trading between Liverpool and Philadelphia, and here he gained an insight into the emigration business, and later directed special attention to the removal of the discomforts of emigrant passengers. The Inman Line, first known as the Liverpool, New York, and Philadelphia Steamship Co., was formed in 1857.

Inn, a river in Austria, one of the chief affluents of the Danube. It rises in the Engadine, Switzerland, and flows through the Tyrol and Bavaria, its total course being estimated at about 310 m. Innsbruck is on its banks.

Inner House, *see* COURT OF SESSION.

Innerleithen, a par. and tn. of Peebles and Selkirk, Scotland. The parish has an acreage of 23,981, and is intersected by the Leithen Water There is a medicinal spring containing sodium and calcium chlorides Pop. (1911) 2547.

Inner Temple, *see* INNS OF COURT.

Innes, Cosmo (1798-1874), a Scottish lawyer and antiquary, born at Durris, and educated at the universities of Aberdeen, Glasgow, and Oxford. First studied law, but soon abandoned the practice, and became known as a student of the ancient records of Scottish history. From 1846 to 1874 he was professor of constitutional law and history at Edinburgh. He was the author of *Scotland in the Middle Ages; Lectures on Scotch Legal Antiquities; Sketches on Early Scotch History; Scotland in the Middle Ages*, etc. A *Memoir* was published anonymously in 1874 by Mrs. John Hill Burton.

Innes, Thomas (1662-1744), a Scottish antiquary, born at Drumgask, Aberdeenshire. He studied at Paris, and was ordained as a priest of the Roman Catholic Church. His great object in life was to refute the fabulous narratives of Scotland and supply a true history in their place. This task he began in his *Critical Essay on the Ancient Inhabitants of the Northern Parts of Britain* (1729), followed up by his constructive work on the *Civil and Ecclesiastical History of Scotland* (1853). Prefixed to the latter is his Life by Grub.

Innocent, the name of thirteen popes:—

Innocent I. (402-417), a native of Albano. He upheld firmly the authority of the Roman see, and was strenuous in enforcing the celibacy of the clergy. He was canonised.

Innocent II. (*Gregorio Paparesci*) (1130-43) was elected on the death of Honorius II. He had, however, to flee from Rome on several occasions, owing to Anacletus having been elected by a rival faction.

Innocent III. (*Lotario de Conti*) (1198-1216) succeeded Pope Celestine III., and under him the power of Rome reached its greatest height. He

exercised his papal jurisdiction over the kings of France and Spain, and compelled King John of England to receive Stephen Langton as Archbishop of Canterbury.

Innocent IV. (1243-54), born at Genoa. He was compelled to leave Rome on account of the quarrel which was being waged between himself and Frederick II.

Innocent V. (1276) was pope for five months, and was a native of Savoy and the successor of Gregory X.

Innocent VI. (1352-62), a Frenchman, and the successor of Clement VI. He brought about a number of reforms in the papal administration, and did a great deal for its benefit.

Innocent VII. (*Cosimo dei Migliorati*) (1404-6); some writers have given a favourable account of him, but most agree that he was guilty of nepotism.

Innocent VIII. (*Giovanni Battista Cibo*) (1484-92) was not a man of blameless life, nor was he a strong ruler.

Innocent IX. (*Giovanni Antonio Fachinetti*) was elected pope in 1591 and died just after.

Innocent X. (*Giovanni Battista Pamfili*) (1644-55), did something towards reform, and was entirely opposed to Jansenism.

Innocent XI. (*Benedetto Odescalchi*) (1676-89), born at Como, 1611. He was a zealous reformer, and most of his time was taken up with the quarrel against Louis XIV., who laid claim to the right of the king to keep benefices open. This led to the Declaration of Gallican Liberties.

Innocent XII. (1691-1700) made peace between France and the Papacy.

Innocent XIII. (1721-24) was under the sway of Spain and France.

See C. H. Pirie-Gordon, *Innocent the Great*, 1907; A. Luchaire, *Innocent III., la papauté et l'empire*, 1906.

Innominate Artery, the largest branch arising from the transverse portion of the arch of the aorta (*q.v.*).

Inns and Innkeepers. An inn may be defined as a place for passengers, travellers, and wayfarers. It is immaterial whether the place is called an inn, coffee-house, or by any other name, if in fact it is an inn. An inn is to be distinguished from a tavern, the latter being strictly an alehouse [illegible]ied, but a place sale of liquor is not the characteristic of an inn, and there are great numbers of places in this country which are nevertheless inns because they have no licence to sell intoxicants. An inn is essentially a place which provides lodging accommodation for travellers, and this is the element which distinguishes an inn from a place which is not an inn, and a refreshment bar attached to an hotel and under the same roof, but entered by a separate entrance, is not an 'inn.' The proprietor of a tavern is under no obligation to supply even a traveller with refreshment, and indeed no one has a right to insist on being served in either a tavern or alehouse; but it is an indictable offence, and also actionable, for an innkeeper to refuse to supply accommodation and victuals at any hour of the day or night to a traveller who is ready to pay and conducts himself properly. But the innkeeper may refuse if he has not room, or if the traveller or intending guest is an objectionable person, such as a thief, prostitute, or person suffering from contagious disease. In 1899 an innkeeper was charged with refusing without good cause to supply a lady bicyclist in 'rational' garb with victuals. The jury were directed to say whether the bar parlour (to which the innkeeper had relegated her as a more suitable place than the coffee-room) was a fit and proper place for the prosecutrix, and they decided in the affirmative; but the legal principle whether an innkeeper might refuse altogether to serve a lady in 'rationals' was not and has not been decided. An innkeeper is only bound to receive and lodge a guest so long as the guest retains his character as such. Merely purchasing temporary refreshment or putting up a man's horse is enough to make a man a guest. But in a case that arose in 1913 it was decided that a student who, after paying his bill, left his portmanteau in the lobby of the hotel, intimating that he was returning later for it, was no longer a guest, and could not recover damages from the innkeeper for the portmanteau, which was stolen before he returned. At common law the liability of innkeepers was so wide that a guest could recover for loss or damage to his property in almost all cases where the innkeeper was unable to prove that the loss was due to the guest's default. But by the Innkeepers Liability Act, 1863 (Section 1), an innkeeper is not liable to pay more than £30 for loss or injury to articles or property brought by guests unless the property (1) is a horse or other live animal, or a carriage and gear; (2) was stolen, lost, or injured through the wilful act, default, or neglect either of the innkeeper or his servants; (3) was expressly deposited with him for safe custody. Apparently in this last case the innkeeper may insist on the property being securely fastened and sealed up in a box or other suitable receptacle. To

obtain the benefit of the Act an innkeeper must put up in some conspicuous part of the entrance hall of the inn a copy of Section 1 of the Act. If a guest refuses to pay his bill the innkeeper has a lien on his luggage or other articles brought to the inn by the guest, whether such articles are the property of the guest or not. Hence a commercial traveller's stock in trade can be seized. If the bill be not paid in six weeks, the innkeeper has, by an Act of 1878, the right, after advertising in a London and local newspaper his intention to sell, at the end of that time to sell the articles and repay any surplus to the defaulting guest. The Scots law is substantially similar in all respects, and the Act of 1878 probably applies notwithstanding the statutory reference to a 'London' newspaper.

Innsbruck, the cap. of the prov. of Tyrol in Austria. It is named from the chief bridge over the Inn, on whose right bank it lies. The situation is a splendid one, for the broad valley from which the city rises is guarded on all sides by lofty heights. Here the high roads from Bregenz in the Vorarlberg and from Germany on to Italy over the Brenner Pass cross one another, a fact which accounts for its strategic importance. The interest of the town is mainly archæological. The cenotaph of Emperor Maximilian I. (*d.* 1519), which, with its marble sarcophagus and twenty-eight bronze mourners, is one of the finest illustrations of 16th century sculpture, rests in the Franciscan church (1509-93). There is also a university (originally founded in 1677), and the Landhaus of the Diet is here. Pop. 53,194.

Inns of Court. There are now four I. of C., Gray's, Lincoln's, Middle, and Inner Temple. To become a member of the English bar it is necessary, besides passing certain examinations in law, to be admitted as a member of and to keep twelve terms (extending over a period of three years) at an I. of C. The I. of C. are a kind of legal university of London, in which the students and barristers correspond respectively to graduates and undergraduates. There were formerly a number of small inns, such as New Inn, Staple Inn, and Clifford's Inn; all of these have either been bought up or in some other way acquired by the four remaining I. of C. With the dissolution of the serjeants' inns disappeared the ancient status of 'serjeant,' eternally commemorated in the humorous characters of Serjeants Buzfuz and Snubbin in the *Pickwick Papers*. All the existing I. of C. are corporate bodies owning valuable property, and appointing from time to time 'benchers' out of their own members to form the executive bodies of the societies. Twenty benchers, five from each inn, co-opted from time to time, form the Council of Legal Education. The benchers may disbar a barrister for professional or other serious misconduct, and there is no appeal from their decision. Intending equity and chancery practitioners usually join Lincoln's Inn, the two Temple Inns being the best for common law business. Gray's Inn apparently offers the best scope for scholarships and students' prizes. A time-honoured feature of the I. of C. is the keeping terms, not by residence or attendance at lectures, but by 'eating dinners' in the halls, the total number being six for each term; but there are certain exemptions; studentship and first class honours men gaining a remission of two terms, and university men need only dine on three nights each term.

Innuendo, in the language of pleading in an action of libel or slander, means a paragraph in a statement of claim which seeks to put on the words complained of a more defamatory meaning than is warranted by natural construction. The defendant may traverse or deny the I., and at the same time pay money into court by way of amends. But if he adopts this course he must make it clear that the money is paid in by way of reparation for the words in their

a healthy subject by the introduction of certain products of disease into the body through the skin or the mucous membrane. The chief diseases so transmitted in man are anthrax, hydrophobia, small-pox, and syphilis. Before Jenner introduced vaccination (*q.v.*), I. of small-pox was practised. The disease as thus transmitted was far less dangerous than the ordinary small-pox, and, further, rendered the inoculated subject much less liable to a future attack. Its disadvantages are obvious, in that it tended to keep the disease alive, and further to increase its spread, but it was invaluable to those who had been inoculated, and was of great service prior to Jenner's discovery. In 1840 the practice of I. with small-pox was forbidden by law. Pasteur's treatment for hydrophobia and all serum injections are based on a similar principle to that explained above.

Inosite, or Hexahydroxycyclohexane ($C_6H_6(OH)_6$), a sweet crystalline substance, melting at 253° C., that is found widely distributed in the

animal and vegetable organisms, especially in conifers.

Inowrazlaw, *see* HOHENSALZA.

In partibus infidelium, the Latin for 'among unbelievers,' was, from the 13th century till the pontificate of Leo XIII., part of the description of titular bishops, that is, bishops whose titles referred to dioceses no longer existent. Such bishops first appeared in the days following the Greek schism, but they became common after the crusades, one result of which was the formation of many sees in Mohammedan countries. These sees soon ceased to be centres of ecclesiastical authority, when the lands came under pagan sway once more, yet Rome clung to the titles as evidence of past glory. In England bishops of the Romish Church were titular up to 1850.

Inquest, *see* CORONER.

Inquisition (Fr. *inquisition;* Lat. *inquisitio*, a seeking or searching for). In ordinary language, particular inquiry, search stimulated by curiosity or hidden motives. In law (1) a judicial investigation, inquiry, examination, an inquest; (2) the verdict of a petty jury under a writ of inquiry. 'An inquisition of office is the act of a jury summoned by the proper officer to inquire of matters relating to the crown, upon evidence laid before them' (Blackstone, *Comment.* bk. iv. ch. xxiii.). The I. or Holy Office was an ecclesiastical tribunal first outlined at the Synod of Toulouse in 1229, and established by Pope Gregory IX. after the conquest of the Albigenses in 1233. A committee consisting of several respectable laymen and the parish priest was ordered to be set up in every parish to search for and bring heretics before the bishops. The bishops were soon replaced by inquisitors specially appointed by the pope from the Dominican and other orders. Persons accused of heresy were examined privately, and if sufficient evidence was found against them they were arrested by the civil authorities and tried. Those found guilty and unrepentant were condemned to death—generally by burning alive; the guilty, but repentant, were imprisoned for life. Informers' names were kept secret; torture was resorted to to extract confession, and might be used three times in succession. The I. was set up in Italy, Spain and its dependencies, Portugal, and France, but not in England, where heretics were tried by the ordinary tribunals. It flourished chiefly in Spain, owing to the numbers of Jews and Mohammedans settled there, who, while outwardly conforming to Christianity to avoid persecution, practised their own religion in secret. According to Llorente, the historian, who was also secretary of the I. in Madrid from 1790-92, 8800 persons were burnt in Spain alone during the eighteen years of Torquemada's tenure of office as Grand Inquisitor. The Spanish I. was suppressed by Napoleon in 1808, revived by Ferdinand VII. in 1814, and was finally abolished by the Cortes in 1835. In France it was responsible for the suppression of the Knights Templars, but soon fell into disuse. In modern times the I. has existed in Rome under the form of the 'Congregation of the Cardinals,' consisting of twelve cardinals, a judge, an assessor, and an advocate, under the presidency of the pope, but its activities are confined to the censorship of the press and matters relating to church law and trials for ecclesiastical offences. Owing to the cruelties perpetrated under its auspices, the I. has come to be regarded almost as a synonym for religious bigotry coupled with the practice of gross inhumanity.

Insanity, unsoundness of mind. It is hardly possible to provide a satisfactory definition of I., as it includes many widely differing states of body and mind, and excludes many forms of aberration which are associated with more or less transient diseases. The difficulty of defining sanity is at once apparent when we reflect that no two individuals agree in all their mental processes, and the most we can do is to say that it is possible to set certain broad limits as to what may be called normal mental powers and processes. At the present time, when legislation threatens to set more restrictions upon persons of alleged unsound mind, it is wise and just that a certain charity should be observed in deciding the limits of I. Without entering into a discussion as to the ultimate relationships between mind and body, it is justifiable to assert that the workings of the mind are occasioned by, or are accompanied by changes in the brain, and, in particular, that outer rind of grey matter known as the cortex. When any injury is sustained by this organ, or when poisonous matters are carried to it by the blood stream, clinical experience tells us that a disturbance of consciousness occurs. The delirium of the fever patient is due to his brain being temporarily poisoned, and a number of cases of more permanent forms of I. can be traced to definite lesions of the brain. Such conditions are often accompanied by purely physical symptoms, so that the hypothesis that I. depends ultimately upon physical causes is not altogether unjustifiable.

Causes of insanity.—Mental defect or disease is associated with some inherited or acquired peculiarity of brain constitution. If statistics be of any value at all, the relation of I. to hereditary nervous weakness is well established. The descendant of insane parents may be normal and even extraordinarily capable, but there is great likelihood of some indications of want of nervous balance showing themselves, and his general condition may be represented as a susceptibility to invasion by the agents that produce mental instability, just as a child of consumptive parents, though apparently healthy, is assumed to be less likely than others to resist invasion by the tubercle bacillus if he allows the conditions to become favourable for its development.

[illegible] ises of I. may sing stress of a fear abroad pidly among hough statis- real increase

mechanism is being over-wrought in a number of cases. Opinion as to the place of alcoholism in the causation of I. is divided. So many cases show a history of alcoholism, and its effects on the nervous system are so pronounced that many claim alcohol to be the commonest cause of I. On the other hand, the cause may be confused with the effect; the lack of control which makes the confirmed drunkard is a characteristic symptom of an unsound mental constitution. Consanguinity, or marriage of near relations, is adduced as another cause. Here, again, the probability is that if the parental history is free from I., there is no particular tendency in that direction in the offspring. If, however, there is I. in the family, the tendency is transmitted in an intensified form by reason of both parents being in the line of descent. Mental feebleness is perpetuated in many of our villages by the intermarriage of related persons with a history of mental deficiency; such persons often are responsible for much larger families than the average. The immediate cause of I. may be toxic poisoning through defective metabolism or through actual infection by micro-organisms. Such forms of I. as follow certain fevers, as influenza and puerperal fever, or syphilitic infection, are undoubtedly due to the presence of toxic substances in the blood. It has been further suggested that worry, violent emotion, etc., by their effect on metabolism induce changes in the blood which may ultimately cause a physical condition of the brain involving I.

General symptoms.—The symptoms of I. may be divided into mental and bodily. Of the mental symptoms the most definite are persistent delusions or hallucinations. A *delusion* is a false idea, as when a patient fancies he is some great personage, or that there is a conspiracy against his life; a *hallucination* is a false perception, as when a patient sees visions or hears voices which have no foundation in reality. It must not be thought that all insane persons suffer either from delusions or hallucinations of a definite type. Mental instability shows itself in extreme impulsiveness in action, leading sometimes to sudden attempts at suicide. In some forms of I. it is almost impossible to keep the patient's attention for more than a few seconds, he is at the mercy of every chance impression; on the other hand, some patients cannot be roused out of an obstinate introspection. Memory is often disturbed, being either abolished or restricted to remote events. Of bodily symptoms the most characteristic is sleeplessness, and the recurrence of the habit of sleep is generally a sign of improvement. A rapid pulse-rate and general lack of control of muscles are usually to be found in most types of I.

Classification.—There is great diversity among alienist writers as to the classification of types of I., but the following forms are generally recognised. *Melancholia* is characterised by persistent depression. It is often brought about by worry or overwork. There are often hallucinations, the patient does not sleep, the pulse is rapid, and the excretion of urine is disturbed. If the symptoms do not abate the patient dies of exhaustion. *Folie circulaire* is characterised by recurring periods of depression or of excitement. The first description of this form of 'alternating I.' implied that the patient proceeded from melancholia to exultation and then again to melancholia. This, however, does not appear to be general; the term probably covers different forms of recurrent I. *Mania* is characterised by exultation; the patient is greatly excited, sleeps little or not at all, and progresses either towards recovery or to a chronic subacute state. The bodily indications are loss of weight, great restlessness, and widely opened eyes. *Delusional* I. is [illegible] ciated with [illegible] The onset [illegible] tient being looked upon as somewhat peculiar by his friends. A delusion then sets in; the patient thinks he is being persecuted by real or imaginary persons.

There is considerable danger of violence, as the patient may attack his supposed persecutors or attempt suicide to escape from them. The bodily symptoms are indefinite; there is a certain amount of weakness and malnutrition, but few other signs. *General paralysis of the insane* is a nervous disease caused by toxæmia and usually associated with a syphilitic history. Men are attacked more than women, and town dwellers more than country dwellers. The onset is gradual; the patient loses strength, bodily and mentally, and partial paralysis sets in. The speech becomes badly controlled, the whole body is restless, and periods of mental excitement occur. For a time delusions may be entertained, but even these lose their fixedness and the patient advances to utter helplessness and speechlessness. Death may occur from exhaustion or any disease to which his enfeebled condition may make the patient liable.

Treatment.—Each case has its own particular requirements. The bodily health must be kept up by careful supervision and nursing. Curative treatment usually involves some form of persistent suggestion; the patient is provided with occupation suitable to his needs, [illegible] form of organ not bear on [illegible]. Asylums for the care of insane are established in suitable cent all the countries of Europe and America, and the general tendency is towards giving the patients as free a life as possible. To this end the modern mental hospital has developed into a kind of colony of detached cottages, farms, and the like. This system is not only more conducive to the general improvement, physical and mental, of the patients, but has been found more economical as well.

Laws rel [illegible] legislative are contain 1890 and insane person may be administered by the nearest relative on application to the Court of Lunacy. If there is a [illegible] ity of the should be nquisition, ake a dis- position of his property if he has been found insane. provides for pendent persons, and for the payment of debt, but invariably a sum sufficient to maintain the lunatic in the degree of comfort to which he is accustomed is set apart. An order of the court is sufficient to provide for the detention of such a person in a lunatic asylum. Where the Court of Lunacy has not been approached, a reception order must be obtained from a county court judge, stipendiary magistrate, or justice of the peace specially appointed to administer the Lunacy Acts. The application for an order must be accompanied by a statement of the circumstances under which the petitioner makes the application, and by two independent medical certificates. In urgent cases one medical certificate is accepted, but an urgency order only remains in force for seven days or until such time as a regular petition for a reception order is disposed of. In 1912 a Bill was introduced in the British House of Commons to provide for persons who are not actually insane in the legal sense, but are so deficient mentally as to constitute a danger to themselves and the community. The Bill proposed to set up a new authority independent of the Lunacy Commissioners, who should arrange for the care and supervision of 'defectives' not properly cared for in their own homes. The Bill was subjected to a great deal of criticism and did not proceed to the third reading; an amended version was introduced in 1913.

See Maudsley, *Pathology of Mind*, 1895; Mercier, *Text-book of Insanity*, 1902; and Hack-Tuke, *Dictionary of* [illegible] 1902, which of the legal of insanity.

Inscribed Stock. Stock is said to be inscribed or registered when the name of the stockholder is inscribed in the stock register of the state or corporation which has issued it. The holder is entitled to an imaginary sum of money, usually £100, and the right to receive a fixed rate of interest in perpetuity. This registration is evidenced by a certificate which also gives him the right to obtain pay- of interest. In contradistinction S. is that stock which is issued in orm of bearer bonds with divi- coupons attached.

Inscriptions (from Lat. *inscriptum;* from *in*, upon; *scribĕre*, to write), the name given to records written or engraved upon stone, metal, or other materials more durable than parchment or papyrus. They form in many cases our sole source of reliable information regarding ancient civili- and are invaluable as tests of uracy of tradition or of scriptural references. They are found on rocks, burial tablets, temples, or other buildings, on vases, seals, gems, and they record public events or private contracts and memorials. Their translation forms a vast field of labour and research for the student and scholar, many having spent

years of patient toil over the deciphering of only a few letters, as, for example, the work of Grotefend of Hanover in connection with cuneiform writings. I. are classed according to the language in which they are written, and include Semitic, Egyptian, Greek, Latin, Runic, Cuneiform, and Indian. Some, such as those found in Yucatan and Mexico, are written in unknown pictorial or hieroglyphic characters, and have so far baffled translators.

Semitic inscriptions include those written in the Phœnician, Assyrian, Babylonian, Aramean, Hebrew, and Arabic languages. The oldest Phœnician I. is the dedication of a bronze vessel from the Baal Lebanon temple in Cyprus of about 1000 B.C. The Moabite Stone (about 890 B.C.) gives an account of the reign of Mesha, king of Moab, and mentions the events chronicled in 2 Kings iii. A fragment remains of an inscription of Herod's temple at Jerusalem, and the Jewish cemeteries in various Eastern cities have yielded Hebrew inscriptions. At Palmyra the sculptured tablets which sealed the sepulchres were invariably inscribed, as were also the brackets supporting statues on the many columns of the city. In the great mosque of the Dome of the Rock at Jerusalem is an Arabic I. in Kufic characters. For works on Semitic I. *see* the *Corpus Inscriptionum Semiticarum* of the French Academy, and Schröder's *Die Phönizische Sprache.*

Egyptian inscriptions. — The ancient Egyptians inscribed or painted records upon almost every kind of material, and employed three forms of writing: Hieroglyphic, in which figures or representations of objects are employed, was mostly used upon temples, tombs, statues, and coffins; Hieratic, the cursive form used by the priests; and Demotic, for general use. The discovery of the Rosetta Stone in 1799 led to the deciphering of the hieroglyphics. The translation of Egyptian I. has since then attracted a large and ever-increasing body of scholars [illegible] there is now a [illegible] available or [illegible] earliest hieroglyphics are the names of the kings of the 1st dynasty found at Abydos, and date from about 4700 B.C. Much information regarding the religion of ancient Egypt, annals of kings, and narratives of important events are found upon the walls of temples, tombs, obelisks, as well as upon steel or upright stone slabs. Sometimes, as on the Stele of Piankhi, the Ethiopian conqueror of Egypt, the minutest details of events are given and enable the historian to form a fairly accurate idea of the civilisation and culture of the times. *See* works by Champollion, Birch, Wallis Budge, and F[illegible]erally.

Gre[illegible]iest Greek I. to which a date can be assigned, are records cut by Greek soldiers in the service of the king of Egypt, on the colossal statues at Abu Simbel on the Nile; they belong to the 6th or 7th century B.C. Next in antiquity come the records on the bases of the statues of the Temple of Apollo near Miletus. Copies of treaties between different Greek states were generally engraved on bronze tablets, and hung in temples, and many, chiefly those between Athens and her allies, have been preserved. Greek I. in a very ancient form of writing have been found in Cyprus, and are called Cypriote. More than 10,000 Greek I. have been published in the *Corpus Inscriptionum Græcarum* of the Berlin Academy.

Latin inscriptions are even more numerous than Greek, though none are so ancient. They were written in a particular abbreviated form adapted for giving the names and conditions of individuals, stating whether bond or free, from town or country, of civil, military, or religious profession. There were special formulæ for edicts, epitaphs, and dedications. There are about 5000 Etruscan I. extant, which form a separate group and language of their own, and are as yet but imperfectly understood.

Runic inscriptions are found in Sweden, Norway, Denmark, and a few in England and Scotland. The letters are supposed to be derived from the Greek through traders and colonists who settled in Northern Europe several centuries B.C. One of the most interesting specimens is the I. on the Golden Torque found in Wallachia, and belongs to the time of the invasion of the Danube provinces by the Goths in the 3rd century A.D. Among the principal Runic I. found in Britain are those on the Ruthwell Cross in Dumfriesshire and the Bewcastle Cross in Cumberland. *See* G. Stephens' *The Old Northern Runic Monuments of Scandinavia and England.*

Cuneiform inscriptions were written by the ancient inhabitants of Assyria, Babylonia, and Persia, and are wedge-shaped or arrow-headed marks, the exact equivalent of which still forms a field of laborious speculation, and which for many years completely [illegible] one of the most re[illegible]ical cunei[illegible]ed upon a perpendicular rock at Behistun in

Persia, which gives in three languages a record of the reign of Darius, and which enabled cuneiform to be first deciphered. See *The Cuneiform Inscriptions of Western Asia*, edited by Sir H. Rawlinson and E. Norris.

Indian inscriptions as well as Pali (the sacred language of the Buddhists of Eastern India) are very numerous, and are found in temples, rocks, and caves. The oldest are the edicts and admonitions of Asoka, the Buddhist king who reigned in the 3rd century B.C. See *Corpus Inscriptionum Indicarum*, edited by Cunningham; Burgess's *Archæological Survey of Western India*; Burnell's *Elements of South Indian Palæography*; and Dr. Isaac Taylor's *The Alphabet*.

Insecticides are indispensable to all farmers and horticulturalists. A specially prepared mixture of flowers of sulphur and quicklime in the proportion of one to four makes a good whitewash for fruit-trees in the spring and also effectually prevents blight on pear trees. It kills the insect pests by means of the sulphurous fumes, which are given off. An application of lime is similarly effective, and in no way interferes with the vegetable growth—a property which is essential to a good insecticide. Many recommend dry tobacco powder or tobacco soaked in hot water; a soft soap solution with one ounce of soap to the gallon; a substance containing arsenic and known as Paris green; and what is called the Bordeaux mixture, which consists largely of copper sulphate. Wasps' nests may be destroyed by pouring a ladleful of tar down the entrance hole when the inmates are at home, and also by a solution of cyanide of potassium (two ounces to the pint). But extreme caution must be observed with this latter as it is a virulent poison. The caterpillars, which attack gooseberries and currants, are best removed by the tedious process of hand-picking, but they will soon die if subjected to a spraying or syringing with London-purple, which is an arsenite of lime, and therefore, like Paris green, highly poisonous. A thoroughly mixed dressing of lime and soot if liberally applied soon gets rid of the saw-fly which eats into pears and cherries. Injections of pure chlorine gas did away with the ant plague at La Rochelle. Fly-tapes and fly-reels smeared with honey-gum or some other sticky substance like treacle and birdlime rapidly reduce a swarm of house-flies.

Insectivora (Lat. for insect-eating), an order of placental, non-volant mammals. They are small in size, and derive their name, of course, from their common food. One and all exhibit a dentition peculiarly well adapted for eating insects, with tiny conicle tubicles on the top of the molar teeth. Many have a full complement of teeth—incisors, canines, premolars, molars, and even temporary milk molars. The actual number varies with different families, but forty-four is an average total. I. put the greater parts of their soles on the ground when they walk and are therefore said to have 'plantigrade' feet; there are five toes, each one armed with a claw. They occupy an exceedingly low place in the scale of biological development and are certainly no higher than marsupials; many zoologists, indeed, regard them as being more or less representative of the primitive mammalian stock; the skull is of a most backward type, and the brain-cavity is relatively small. In habit the I. are, generally speaking, both terrestrial and nocturnal, a few, however, like the Potamogales, are aquatic, and others, like the tree-shrews or tupaias of India and the Malay Peninsula, are arboreal. Quite a number, as, for instance, the large group of moles, or *Talpidæ*, burrow in the ground. Many fossil I. have been discovered, especially in the Tertiary strata, and more than 200 living species are known. Members of this order multiply with astonishing rapidity; the hedgehog may have a litter of eight, whilst that of the tenrec sometimes numbers over twenty. Their muscular system is well-developed; their skin is thin, and the shrews and other species are provided with scent-glands at the sides of their bodies. Australia and S. America are the only large areas of the globe where there are no I., in all other tropical and temperate zones there are many representatives.

Insectivorous Plants. One of the most important of the essential elements of plant food is nitrogen. Usually it is obtained from the nitrates of the soil; parasites receive it from the bodies of their host-plants: leguminous plants living in symbiotic relationship with bacteria probably exchange some of their carbon for the nitrogenous compounds of the bacteria. I. P., however, adopt the simple expedient of entrapping tiny specimens of animal life and absorbing their nutritious juices. A well-known I. P. of S. America is *Dionæa muscipula*, or Venus' fly-trap. The leaf-blade forms a round flat disc edged with teeth near the apex, and each half is capable of moving inwards from the midrib. Should an insect alight on one of the sensitive hairs, the leaf-blades curl upwards enclosing the creature, and soon absorb the nitrogen it contains. The mechanism

of *Drosera rotundifolia*, the sundew common to British moors, is very similar to that of Venus' fly-trap, but it attracts its prey by means of a sticky, glistening, dew-like mucilage. Another common British plant of like habit is *Pinguicula vulgaris*, the butter-wort, a pretty herb with a rosette of pale green leaves growing close to the ground and a flower somewhat resembling a wild pansy. *Utricularia vulgaris*, the bladder wort, is an aquatic I. P., which produces bladder-shaped traps: the insect enters the bladder readily by means of a valve opening inwards, but it is unable to return, and after its death its decomposed elements are absorbed by the cells which line the bladder.

Insect Powder, used for killing flies and other insects. The closed blooms of several varieties of *Pyrethrum*, as, for instance, *Pyrethrum roscum* and *Pyrethrum carneum*, are reduced to a powder, which if sprinkled on fleas and house-flies, etc., first makes them sensceless and finally causes their death. An alcoholic tincture of the powder seems to have the same effect although many deny that the volatile oil is as effective as the dry preparation.

Insects belong to the invertebrate group of Arthropoda. There are over a quarter of a million species known to-day, and the likelihood is that the study of entomology in the future will reveal many thousands more. Thus I. are by far the largest class of animals, and can further claim a very remote ancestry, as the Lower Silurian rocks in the earliest ages known to geologists bear distinct traces of them. 'A typical I.' stands considerably higher in the biological scale than Peripatus or Myriopods. Its body is enveloped in a horny substance called chitin, and is structurally composed of three segments, which are frequently so narrowly united that the I. seems cut up into three parts—a phenomenon which has given the class its name (*insect*, Lat. for 'cut into'). These three divisions are the head, thorax, and abd[illegible] adult I. has wings, with [illegible] of the caterpillar, etc., body with only three pairs of locomotor limbs, whence it is called a Hexapod ('six legs'), and carries on its respiration by means of air-tubes or tracheæ, whence it ranks with other Tracheata.

Anatomy of insects.—The 'head' is made of several segments closely united. The mouth is situated at the front, and on the under side, an upper lip ('labrum') being usually provided; it has three pairs of appendages with which it procures and also masticates its food. There is also a pair of pre-oral outgrowths called feelers or antennæ. Each adult I. has two kinds of eyes: there are two compound eyes, made up of countless six-sided lensed facets, which are set one on either side of the front of the head; between these are the simple-lensed eyes, called 'ocelli,' which are often disposed in groups of three and are really only eye-points. A compound eye can well be studied in a house-fly. 'Larvæ,' that is, young I., have only 'ocelli.' The 'thorax' is made up of three segments, each provided with a pair of jointed legs on the lower surface. Two pairs of dorsal compressed sacs, that is, wings, are fastened to the upper surface of the two latter segments. In some species there is only a single pair of wings, whilst in others the second is still very undeveloped. The 'abdomen' has no legs, unless stings, pincers, and other weapons of offence, or ovipositors, be regarded as rudimentary limbs. This part of the trunk contains most of the organs. 'Appendages' are of four kinds on the head. Firstly, there are two 'antennæ' springing from the forehead. These are many-jointed, thin, and long, and have many nerve-endings which make it probable that they serve as organs of touch, by which impressions are conveyed from one I. to another, and perhaps also as organs of smell. Secondly, there are the 'mandibles' or biting and upper jaws, which are simply hard plates adapted for crushing and cutting. Below these are the 'anterior maxillæ,' or lower jaws, which are provided with jointed 'palps,' that is, sensiferous organs, and which often have quite a complex structure. The 'posterior maxillæ' are the fourth pair of appendages. These also are complex and furnished with palps, and are, moreover, usually united at their base. The mouth is formed of the mandibles, and the two pairs of maxillæ, and may be of the sucking or chewing type. Thus moths and butterflies have suctorial mouth [illegible] and whilst their man- [illegible] ly slightly developed, [illegible] have become 'probosces' by being protracted into a spiral tube. The mouths of beetles are masticatory. The trunk appendages are the three pairs of legs already referred to. Each limb is divided into five parts, namely hip ('coxa'), 'trochanter,' thigh ('femur'), shin ('tibia'), and foot ('tarsus') with claws and pads at the extremity. Sometimes there are tarsal hairs and glands, which enable the I. to grip a smooth surface; the legs of a cricket are muscular; those of a daddy-long-legs, lank and, of course, long, whilst

the water boatman can swim with his, and other insects use them for making a noise.

Skin and glands.—The chitinous cuticle or integument, which forms a kind of ensheathing skeleton, often bears bristles, tubercles, scales, or hairs, the last of which may be sensory or olfactory. I. are subject to moultings and cast their whole skins many times before reaching their greatest size. The skin serves as a firm support for the highly-developed muscles which work the wings, legs, trunk segments, and mouth organs, and which further control circulation and respiration. A variety of glands exist in connection with the skin. Bees, coccus I., etc., have wax glands near the bottom of the abdomen or on the back; a number of larvæ, especially such as weave cocoons, have spinning glands opening near the mouth; bugs have odoriferous, and wasps and stinging ants poison, glands, and few I. are without salivary glands, which also open near the mouth.

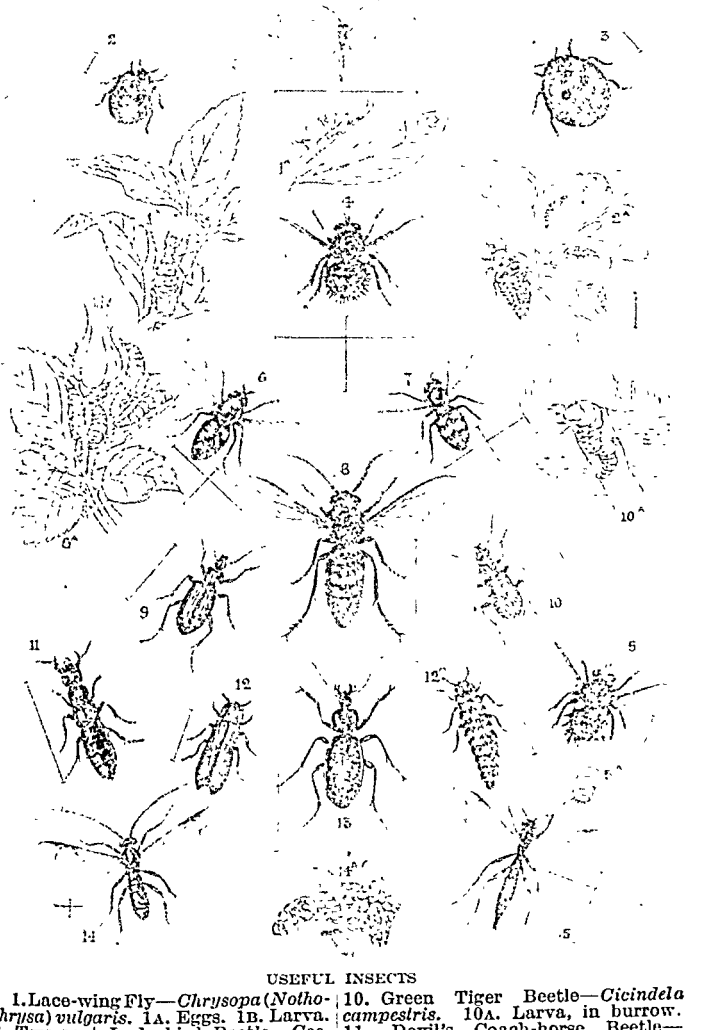
The nervous system differs, broadly speaking, from that of vertebrates by having a ventral instead of a dorsal nerve cord. The nerve centres, called 'ganglia,' which are simply masses of nervous matter, lie lengthwise along the lower part of the trunk and are connected to
of nerves. Fr
nerves are
parts of the body, and in the extreme front is a larger ganglion, usually called the brain. From the brain the two nerve chains, or cords, divide so as to encircle the gullet, after which they reunite. As regards their sense organs, it is certain they have some of them more highly developed than human beings. I. which visit flowers are wonderfully sensitive to fragrance and to colour, and it is largely by smell, it seems, that I. recognise friends and foes. Some entomologists credit them with a sixth and 'dermatoptic' sense, because their skin seems able to appreciate minute differences of light and shade. I. hear by means of nerve-endings, called 'tympanal' and 'chordotonal' organs, which lie on various parts of the body surface and greatly surpass human beings in their auditory faculties. Many, like ants and bees, which lead a social life, show extraordinary powers of intelligence and ingenuity, especially in adapting fresh means to compass a particular end, and are, moreover, susceptible of strong emotion, as their love-making and maternal affection clearly indicate.

The ntres
round or
heart, the
body's upper surface, and which is a tube composed of segments with valves between. Behind this tube is a blind alley, but in front it is fused into a fine channel, the 'aorta.' The blood, which is a colourless, pale green, or yellow fluid with amœboid cells, is pumped out from the heart, which contracts into the various tissues until a muscular contraction of the body forces the blood back from the tissues into the heart. Lacunæ, which have no definite walls, take the place of blood-vessels properly so-called.

The respiratory system of I. is remarkably efficient. Air-conducting tubes, called 'tracheæ,' are distributed root-wise all over the body, and open to the outer air by means of paired apertures called 'spiracles,' or 'stigmata.' There are never more than ten pairs, which are variously arranged on breast and abdomen, and are not infrequently protected by hairs. In water I. lateral or terminal expansions, known as tracheal gills, replace the stigmata; the oxygen dissolved in the water can penetrate through their thin surfaces. The tracheæ are really ingrowths from the outer cuticle; they are lined with chitin, and appear silvery and glistening; the air is probably driven through them by certain muscular contractions.

The alimentary system varies with different species and also to some extent with different diets. The alimentary canal, which passes from front to back, usually with several loops on the way, may be divided into fore-, mid-, and hind-gut. Mouth, pharynx, and gullet compose the 'fore-gut'; sometimes the gullet is swollen into a kind of 'crop,' the 'honey-stomach' of the bee; sometimes it is prolonged into a gizzard with grinding plates to promote mastication, and sometimes it has a pouch called the 'sucking stomach.' The fore- and hind-gut are lined with chitin; not so the mid-gut. This is a chyle or digestive and absorptive stomach, and leads into the hind-gut or intestine, which is often coiled and glandular; it is longer in I. which take solid than in those which take liquid food. The intestine absorbs and the waste products leave the body by means of a set of winding threads or tubes, the Malpighian vessels, which usually grow from its upper part.

Reproductive system is carried on by paired reproductive organs, the products passing out through paired ducts, the *vasa deferentia* of the male and the 'oviducts' of the female. The sexes are quite distinct and differ in other points of structure



USEFUL INSECTS

1. Lace-wing Fly—*Chrysopa* (*Nothochrysa*) *vulgaris*. 1A. Eggs. 1B. Larva. 2. Two-spot Lady-bird Beetle—*Coccinella bipunctata*. 2A. Larvæ, with one enlarged. 3. Seven-spot Lady-bird Beetle—*Coccinella septempunctata*. 4. Spiny Fly—*Tachina* (*Echinomyia*) *grossa*. 5. Spiny Fly—*Tachina* (*Fabricia*) *ferox*. 5A. Larva. 6. Hover Fly—*Syrphus* (*Catabomba*) *pyrastri*. 6A. Larvæ. 7. Hover Fly—*Syrphus ribesii*. 8. Hornet—*Vespa crabro*. 9. Sun Beetle—*Pterostichus vulgaris*. 10. Green Tiger Beetle—*Cicindela campestris*. 10A. Larva, in burrow. 11. Devil's Coach-horse Beetle—*Ocypus olens*. 12. Glow-worm Beetle (male)—*Lampyris noctiluca*. 12A. Female. 13. Violet Ground Beetle—*Carabus violaceus*. 14. Bracon Fly—*Microgaster glomeratus*. 14A. Cocoons, spun by larvæ emerged from caterpillar of Common Cabbage White Butterfly, with enlarged cocoon below, showing lid. 15. Ichneumon Fly—*Pimpla instigator*.

besides in reproductive organs. Thus the female of the butterfly *Orgyia* has no wings, and among *Strepsiptera* (bee-parasites) the female never leaves the grub stage. Males can store up spermatozoa in packets, and similarly certain females, like the queen bee, can preserve the spermatozoa received from the male for years, so that she can continue to lay fertile eggs long after her last sexual union. She does this by means of an internal seminal storage cell, whilst others of her sex have external egg-laying organs ('ovipositors'), which serve the same purpose. Sexual selection is practised among I., a fact which has probably contributed towards a more speedy evolution of strength and beauty. Sometimes the males fight for some feminine prize, whilst among bees and other I. the wooing is quite an elaborate process, the female in this case choosing her mate. In his *La Vie des Abeilles*, Mæterlinck gives a poetic description of a queen bee's courtship. Some I. are exceptionally fertile, as for instance, the silk-moth and queen bee; others, among them certain Aphides, are remarkable for parthogenesis, or virgin birth, which sometimes occurs for a limited period only, and is afterwards followed by normal sexual reproduction. A hive of bees usually has only one perfectly mature female, the queen bee; the mass of females who carry on the work have an immature sexual development, and are therefore called neuters.'

Metamorphosis is a phenomenon common to the majority of I. However, among Collembola and Thysanura the young, which, as with most I., are hatched from the eggs of the mature female, the young differ from the adults only in point of size, and even among lice, locusts, cockroaches, and many bugs, the only distinction between the infant and parent is the immaturity of the reproductive organs. These species are therefore said to be 'ametabolic,' that is, not subject to change. Cicadas, Ephemera, and dragon-flies, on the other hand, are classed as 'hemimetabolic,' being subject to partial change. Thus a larva of the cicadas lives on the ground and has anterior limbs suited to burrowing, whilst fully grown cicadas live among grass. The dragon-fly is, of course, winged and aerial, and breathes with open air-tubes, but its larva lives in the water, and has tracheal gills for respiration. But a large number of species, including house-flies, beetles, and butterflies, are 'holo-metabolic' or subject to complete transformation. The eggs are deposited in such large numbers that they have individually only a very limited food-storage capacity. The result is that each larva is obliged to assume a shape which will allow of its better growth and development, and the form assumed varies a great deal between the different species. The larva of a fly is a maggot, which has no distinct head; that of a bee is a grub, whose head is clearly marked; and the caterpillar is the embryo butterfly. The normal growth of a larva of this class is as follows: At first, after it has emerged from its shell, it is very active and greedy for food. The body is segmented and supplied with all the organs except the sexual; there are no wings nor compound eyes. In every larva, moreover, what is known as the 'fat body,' that is, a mass of fatty tissues in the trunk-cavity, is peculiarly well-developed. Here, after a busy life of moulting and growing, it accumulates stores of reserve food for use during the coming metamorphosis. Larvæ for the most part crawl about, and to aid them in movement they have from two to five pairs of 'pro-legs,' that is, foot-like processes, towards the back. The period of change is called the pupal or chrysalis stage. Some larvæ, such as that of the silk-moth, spin cocoons of silk to serve as a shelter during the metamorphosis. The larva now becomes a 'pupa,' which is quiescent and cannot absorb food, but sometimes, as with dragon-flies and grasshoppers, the larva is transformed into a 'nymph,' which eats and continues active. Wings grow, and, what is still more marvellous, there is gradually taking place a complete construction of the internal structure of the former larva. Amœboid cells are fashioned out of the larval organs, and upon the ruin of the latter there grow new structures better adapted for the changed life that is to come. Finally, the pupal husk is broken, and there emerges the 'imago' or perfect, though miniature, I. The task of reproduction naturally rests with the fully-grown I., which sometimes dies after it is completed, as the sexual organs of larvæ and pupæ are almost invariably imperfect.

The classification of insects is based upon variation in structure, especially upon the various types of wings and mouth arrangements: 1. 'Aptera' (wingless): sugar-lice and springtails. There is no metamorphosis. 2. 'Neuroptera' (nerve-winged): May-flies, caddis-flies, scorpion-flies, and dragon-flies, white ants, and book-lice. These have four glassy and membranous wings, a complete metamorphosis, and a mouth of the biting type. 3. 'Lepi-

doptera' (scale-winged): butterflies and moths. These have four wings with delicate, coloured scales and a complete metamorphosis. The mouth is furnished with a proboscis, and the larvæ are characteristic. 4. 'Orthoptera' (straight-winged): earwig, cockroach, locust, grasshopper, and cricket. These are 'ametabola,' have 'cerci' appended to the abdomen, and have the front pair of wings leathery and smaller than the back wings. 5. 'Hymenoptera' (membrane-winged): wasps, bees, and ants. Their mouths are both biting and suctorial. They have four transparent, membranous wings, and undergo a remarkable transformation. 6. 'Diptera' or 'Flies' (two-winged): housefly, horse-fly, and bluebottle-fly; gnat, daddy-longlegs, and mosquito. Their metamorphosis is very complete; their mouths are mostly suctorial; their two wings are transparent and membranous, and their larvæ are both legless and headless (maggots). 7. 'Hemiptera' (half-winged): aphis (green-fly), cochineal insect, waterboatman, lice, bugs, and cicada. These undergo slight metamorphosis, have suctorial mouths, and four wings, which is either membranous or horny with a membranous apex. 8. 'Coleoptera' (sheath-winged): water-beetle, stag-beetle, and tiger-beetle, etc., glow-worm, and cockchafer. Members of this class experience a complete transformation and have biting mouths, but their salient characteristic is the horny sheath ('elytra') of which their front or upper wings are composed, so that the delicate membrane of the hind or lower pair is quite hidden from view.

Life and general characteristics.—I. have most diverse haunts and frequent underground caves, hot springs, and even the sea; nevertheless, the majority are aerial and dwellers on land. In tropical and temperate climates they abound, but they are represented even in the polar regions. Many, as, for instance, the pond-skater, whirligig beetle, water-scorpion, and gnat, are aquatic for the earlier days of their life. Generally speaking, adult I. are short-lived and die within a twelvemonth; the adult Ephemerid, as its name implies, does not live beyond twenty-four hours, but the queen bee flourishes for some years, and a queen ant will rarely last for thirteen. The food of insects is very various. Some steal the pollen and nectar from the flowers: others feed on weaker species of their own kind; others act as internal or external parasites of higher animals; others again grow fat on putrescent matter, and yet another section suck juices from living organisms. Parents will often gather a store to feed their young, even though they themselves die before the larvæ are hatched. A number of I. are able to express sorrow, anger, or fear, or to convey information or make love by means of sound. This may be produced by the rubbing together of the rough surfaces of the outer cuticle, or by the buzzing vibrations of leaf-like appendages near the stigmata of the air-tubes, or by the quick flutter of their wings. Thus grasshoppers scrape their legs against their wing ribs and male crickets chirp by rubbing their wing-cases together. Many Hymenoptera produce their noise by the second means, whilst the whirring sound of bees and flies is due to wing motion. The death's head moth emits a noise by blowing air out of its mouth. Sometimes the noise is purely automatic. If left unchecked I. would multiply with an alarming rapidity. Fortunately, however, the difficulty of obtaining food, inclement weather, and the predilection which birds, ant-eaters, frogs, and fishes, show for them as food, counteracts their amazing fecundity. As with higher animals, so certain I. are naturally protected by having an outward appearance which exactly counterfeits their actual surroundings. This is the case with moss and leaf I. and with humming-bird moths. Other I. are saved from molestation by disgusting fluid discharges, an unpleasant smell, a hard skin, or an offensive weapon like a sting. The social species, ants, bees, termites, and wasps, offer a most instructive and fascinating field for study by reason of their intelligence, architectural skill, and developed communistic life.

Economic value.—Unconsciously, I. play a great part in the cross-fertilisation of flowers as they carry pollen from one bloom to another. The 'myrmecophilous' (ant-loving) plants are actually guarded by ants from other and hostile intruders. Man owes a debt of gratitude to the hive-bee for its honey and wax, to the silk moth for its silk, and to the cochineal I. for a dye. But there are many species which seem purely harmful and destructive. Cattle, sheep, and horses are annoyed by the bot-fly; crops, orchards, and vines are a prey to a whole army of greedy parasitic I., and the havoc caused by a locust swarm is often untold. House flies are strongly suspected as the agents which carry pathological or disease-bearing germs in a number of infectious outbreaks; the mosquito is probably largely responsible for the horrible disease called *Elephantiasis arabum*, and the bite of

the tsetse fly is often fatal. It is unnecessary to enlarge on the local irritations produced by lice, fleas, and gnats.

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Insessores, a Latin word meaning 'perchers,' which is sometimes applied to the large order of birds which Cuvier called 'passerine' or 'sparrow-like.'

In-Shan Mountains, a range in Mongolia on the N. side of the Hwango. They rise to an altitude of from 5000 to 8000 ft., and are a part of the extensive Khingan mountain-chains or table-lands of Eastern Asia, separating Mongolia from Manchuria.

Insolvency denotes inability to pay one's debts. The term, so far as English law is concerned, is for most practical purposes replaced by the term 'bankruptcy' (*q.v.*, and on the old distinctions between I. and bankruptcy). In Scots law bankruptcy is hardly a term of art, except in the phrase *notour bankruptcy*, which implies a condition of I. attended with certain statutory effects restricting the insolvent's power of dealing with his property, but it is also commonly used in connection with the public bankruptcy process of sequestration or *cessio*, under which an insolvent yields (*cessere*) his property up to his creditors. Taken in these latter senses the term does not differ essentially from the state of a debtor who has been *adjudicated* a bankrupt under English law. The importance in Scots law of the condition of I. as distinct from bankruptcy which has become public, is that it has certain special effects on the debtor's power of granting alienations. *Practical* I. is said to exist where the debtor cannot meet his obligations as they fall due; *absolute* I., where at any time his total assets fall below the sum of his present and future liabilities. Usually creditors only concern themselves with the former. The most important general effect of I. is that it is a step in the direction of notour bankruptcy, it being a necessary condition to obtaining a *cessio bonorum*. The special effects of I. above alluded to are, that the insolvent is restrained from depleting an estate or fund insufficient to meet all claims by voluntary or gratuitous alienations, or by alienations made for an inadequate consideration (*q.v.*), or by fraudulent preferences of one creditor over others. In regard to gratuitous alienations at common law, it is to be observed that the alienation can be impugned or 'challenged,' even if the debtor was not actually insolvent before granting it, and although such alienation was the direct cause of his I. Any direct or indirect benefit given by an insolvent to a particular creditor or creditors so as to disturb the equality among the creditors generally, may be challenged as a fraudulent preference at common law, *e.g.* by a mortgage or other security to secure a debt hitherto unsecured. A trust deed providing for equal distribution among creditors is valid, but if a number of creditors, without legal warrant, obtain part of the insolvent's property and agree to contribute towards increasing the dividend out of the residue, any creditor who was no party to the arrangement can claim the restoration of the assets so taken or their equivalent in value, or, in the further alternative, full payment of his debt. I. also restricts an insolvent's power of sale. A seller on credit who learns of his buyer's I. may suspend execution of the contract, and stop delivery or recover possession of the goods even in transit. It is also thought that the I. of a partner is a ground of dissolution of the partnership, and the creditors of an insolvent partner are entitled to take his share of the partnership assets. The only courses open to an insolvent, failing his inability to regain his solvency, are to go through with his public bankruptcy and sequestration, or to try and arrange some voluntary or extra-judicial arrangement of a more or less private character.

Insomnia, *see* SLEEP.

Inspectors, Factory, *see* FACTORY AND WORKSHOP ACTS.

Inspiration (Lat. *inspiratio*, from *inspirare*, to breathe into), a term used in theology to denote that Divine influence on the writers of the Bible by means of which their writings became a Divine revelation. All orthodox theologians are agreed in regarding the Holy Scriptures as the revelation of God in some sense, but there is much difference of opinion as to the method and extent of the Divine inspiration. The dogmatic formula of the Church on the subject, to be traced through various councils and writers from a very early date, simply states, *Deus est auctor librorum sacræ scripturæ*, but this general statement is explained with some detail at the Vatican Council, where it was pronounced that the Scriptural writings are held as sacred and canonical by the church,

' not because after being composed by merely human industry they were then approved by her authority, not simply because they contain Revelation without any error, but because, being written under the inspiration of the Holy Ghost, they have God for their Author.' The Roman Catholic Church continues to hold more closely to the traditional theory of I., that generally known as *verbal* or *mechanical*. This theory was also held for centuries by Protestants in an even more rigid form. This view does much to remove all variety and individuality from the writers of the sacred books, making them mere instruments upon which the breath of God plays. Their words are to be regarded as the very words of God as certainly as if a voice had announced them from the skies. It is evident that such a theory as this could never withstand the touch of scientific criticism (*see* HEXATEUCH), but its impracticability should have been evident even without this. Such a theory of verbal I. throws the whole weight of authority on the autograph MSS., which in no single case are extant, and makes translations, which must ever be more or less inaccurate, somewhat dangerous. The theory of *dynamic* I. in its various forms is that now generally held. It is that the writers did *not* lose their own individuality, but were so under the influence of the Spirit of God that they could make no error in transmitting to mankind the truths which they were intended to convey. But their method of doing this was their own, regulated by their own thoughts, circumstances, and modes of expression. Many hold that the Divine I. in no way affected the form in which the truths are cast: others, relying somewhat on the Schoolmen, hold that God ' assists ' the writers in thus enabling them to choose modes of expression which will infallibly convey the requisite truths, lest these might otherwise be improperly expressed. The theory of dynamic I. finds ample support in the Fathers. ' The Gospel,' says St. Jerome, ' is not in the words, but in the sense—*non in superficie sed in medulla*.' Similarly, St. Augustine speaks of the writer as ' inspired by God, but yet a man—*inspiratus a Deo sed tamen homo*.' This theory is closely related to that of *essential* I., which holds that the I. of Scripture relates only to faith and morals. In support of some form of these theories may be advanced among others the names of St. Thomas Aquinas, Erasmus, Grotius, Baxter, Paley, and Döllinger. *See* B. F. Westcott's *General Survey of the Hist. of the Canon of the New Testament;* W. Sanday's *Inspiration*, articles on ' Prophecy ' (A. B. Davidson), and ' Revelation ' (A. E. Garvie), in Hasting's *Dictionary of the Bible*.

Instalment System affords an easy and attractive means of paying by degrees for articles which men with limited incomes would often be debarred from buying, were it necessary to pay the lump sum down. Retail traders, moreover, find it a profitable system, as by waiting, they get considerably more than if paid by cash. It is largely resorted to by furniture dealers, drapers and clothiers, and newspaper proprietors, etc., who wish to dispose of encyclopædias and complete works of standard authors.

Insterburg, a tn. of E. Prussia, on the R. Pregel, 57 m. E. of Königsberg. It has iron foundries, tanneries, and breweries, and manufs. machines and tiles, leather, hides, and linen. Pop. 31,627.

Instinct. Every one may be said to understand in a general way what is meant by I., despite the difficulty of formulating any satisfactory definition, and, although Darwin himself, whose examination of the various distinct mental actions commonly embraced by the term, refrained from any attempt at definition. Is. may, however, be tentatively defined or rather described as those congenital or natural attributes of the mind which, though closely assimilated to are distinct from habit, and which impel an animal under given circumstances to act in a certain way without experience, and frequently without a knowledge of the object with which the action is done. Older psychologists indulged in the vaguest generalities on I., Scaliger, *e.g.* con-

as the fittest to be done. But, from the numerous instances of instinctive acts collected by Darwin, there are many which would not necessarily command universal approval, *e.g.* the migratory I. of swallows, house-martins, and swifts, all of which in migrating, frequently desert their tender young, leaving them to perish miserably in their nests. Doubtless such desertion may be unavoidable if self-preservation be the root-principle of all instinctive action. This, indeed, is the Stoic view, as opposed to the Epicurean doctrine of pleasure as the end of all action. Darwin, who for the most part rigidly abstains from speculative or *a priori*

assumptions of any kind, may be said by his comprehensive inquiry to have established indirectly the probability of the Stoic creed almost beyond doubt. His revolutionary theory of the origin of species by the process of natural selection (*see* DARWINISM) is invoked in the explanation of the genesis of all the simpler instinctive actions, while he derives complex Is. by a similar process, namely, through the natural selection of variations of the simpl
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as the cause of apparently instinctive action. He agrees that just as modifications of coporeal structure arise from, and are increased by, use or habit, and are diminished or lost by disuse, so it has been with Is., but believes that the effects of habit are in many cases of subordinate importance to the effects of the natural selection of what he calls spontaneous variations of Is., or variations produced by the same unknown causes which produce slight deviations of bodily structure. With Darwin, habit plays a part of purely secondary importance once the position be accepted that Is., like bodily structures, vary slightly, by however infinite gradations, in a state of nature; and there is then no difficulty in accepting his inference that, under changing conditions of life, natural selection accumulates slight modifications of I. which are in any way useful. One curious discovery Darwin made, which corroborates his general theory of the source of I. was, that no I. can be shown to have been produced for the good of other animals, though animals take advantage of the Is. of others. He cites Huber's instance of an apparently altruistic I., in the voluntary yielding by aphides of their sweet excretion to ants; but infers that, as the excretion is extremely viscid, it is a matter of convenience to the aphides to have it removed. Darwin, however, admits that no instinctive or, as we should say, congenital character is universal, and quotes Huber's aphorism to the effect that a slight modicum of reason comes into play, even with animals low in the scale of nature. There is no doubt Darwin was as impressed as Cuvier with the close approximation of I. to habit, and, if he were forced to concede that the majority of Is. were acquired by habit in a single generation and transmitted by inheritance to succeeding generations, a serious blow would be dealt to his general theory. He allows that some habitual actions are inherited, so that that mental quality which was originally an I. becomes a habit, but relates habit generally to natural selection by postulating the probability of inherited variations of I. in a state of nature, adducing in support the Is. of animals under domestication, *e.g.* the fact that young pointers will point and back other dogs the very first time they are taken out, and that shepherd-dogs evince a tendency to run round, instead of at, a flock of sheep. From such instances as these he concludes that under domestication Is. have been acquired and natural Is. lost, partly by habit and partly by man's artificial selection during successive generations of certain peculiar mental habits and actions. In the *Descent of Man* Darwin argues that there is no fundamental difference between man and the higher mammals in their mental faculties, and that between man and the lower animals there are some few Is. in common, such as that of self-preservation, sexual love, and the love of the mother for her new-born offspring. But he pronounces no
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admitting that the higher animals display comparatively few and simple Is. in contrast with those of the lower creations. It is in the relation of I. to intelligent action that the theory of natural selection as applied to man becomes so difficult of acceptance. No one can deny that there is a subtle interaction of the one with the other. Herbert Spencer sees the first rays of intelligence through the multiplication and co-ordination of reflex actions, or those actions of the motor nerves which are immediately consequent upon some external stimulus, and which objectively appear to be mechanical. But most psychologists and physiologists agree that the reflexes are more or less entirely independent of mental influence. Darwin considers that many of the simpler Is. graduate into reflex actions, and are hardly distinguishable, but insists on the origin of complex Is.
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about 1890, and before August Weismann published his *Essays upon Heredity and Kindred Biological Problems*, Darwin's theory in its integrity was very generally accepted by evolutionists. After Weismann wrote, it became a great issue whether the adaptive changes which are produced by natural selection, aided in its operation by the inherited effects of use and disuse of organs and by environment, could really be transmitted to progeny, and so enure to the adaptation of different species

to the different conditions of life. Weismann in his germ-plasm theory flatly denied that *acquired* characters were transmissible. This theory of the germ-plasm, like the later and startling analysis before the British Association by Professor Schaefer (*see* DARWINISM) of the living properties of chemically produced protoplasm, is far more ambitious than any theory formulated by Darwin, in that it seeks to go back almost, if not quite, to the origin of life itself. Darwin expressly abstained from any attempt to define a *life-giving principle, and took* refuge in the apparent *spontaneity* of variations, whether of corporeal structure or of the special case of instinctive action. Weismann sees in the germ-plasm, or nuclear material of chromatin, all the potentialities of life, regarding it as capable of expansion without essential alteration of character, while each individual life is nothing more than a nucleated cell or combined masses of germ-plasm broken away from the primordial stock. It follows, both from the immortality of the germ-plasm and the existence in embryo, as it were, of the individual in the parent or hereditary mass, that the progeny or subsequently developed individual could acquire none of its qualities from the mother; because *en hypothesi*, the masses for progeny and mother could be separated before the latter had developed such qualities. Romanes, too, rejects the idea that natural selection alone is an adequate explanation of the origin of all Is., and thinks that the refined and complicated nature of most Is. can only be ascribed 'to intelligent and intentional adjustments of action on the part of the ancestors of the animals which now present them—adjustments
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the species, owing to their continued repetition in successive generations.' But he cites the curious 'posturing' I. of caterpillars which so resemble the twigs of trees in their form and colour, that they accentuate that resemblance by standing up motionless, and so avoid capture by birds, and allows that such an I. could only have been due to the law of natural selection. The I. of the sphex in sting-

ascribed to natural selection. But the only reason he can advance for his objection is that the 'chances must always have been infinity to one against a merely fortuitous variation, conferring a tendency to sting a caterpillar, in its nine nerve-centres, and nowhere else.' This, it is submitted, misses the subtlety of Darwin's explanation. Such an I. is no more fortuitous in its origin and development than the marvellous I. of constructing cells for the secretion of honey, and it seems that all such Is. may well be explained by natural selection having taken advantage of an infinite succession of slight modifications of simpler Is. Opinion at the present day is divided on the whole question of the origin of I., though it seems to be very generally held that 'congenital characters,' as opposed to 'acquired,' are alone instinctive, and that the latter are referable to intellectual operations Wallace follows his *confrère* Darwin; Romanes, as above indicated, thinks both natural selection and inherited habit are assignable causes. The latest authority, Lloyd Morgan, appears to incline rather to natural selection so far as congenital characters are concerned, but complicates the matter by his own curious speculations as to the influence of heredity. Briefly, his view, which is really a reversion to Cuvier's belief in the inverse ratio of I. to intelligence, with a novel element superadded, is that the more highly a race has become developed in point of inherited 'plasticity of behaviour,' the less becomes 'the definiteness of instinctive response.' But upon any hypothesis of origin, there must always exist an unbridgable gulf between I. and the moral sense. This sense admittedly affords the strongest distinction between man and the brute creation, and the Darwinian view that the social Is., aided by active intellectual powers and the effects of habits, naturally tend to that altruistic rule of conduct which lies at the root of morality, seems artificial. For if the lower animals possess the social I., as many species undoubtedly do, why should they not be capable of developing relating activities of the mind to such a degree as to conduce to the evolution of a moral sense? The investigation of such a problem would inevitably lead to an inquiry into the difference between vitality and that which we know as 'soul'; a difference the existence
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ical Medicine; Spencer, *Principles of Psychology;* C. Lloyd Morgan, *Habit and Instinct, Animal Behaviour.*

Institute, in Scots law, the person in a deed of settlement or other instrument by which lands are granted (*see* GRANT), who takes the first or earliest estate (*q.v.*), or interest is called the I. Those who follow the I. are called the heirs or substitutes. If the I. dies before the disponer or grantor, the first substitute or heir takes without a service (process in Chancery upon a brieve [illegible] of an heir). [illegible] to the grant [illegible]stitutes, unless the grantor has made it clear that the I. is also to be bound. *See* Bell's *Dictionary*; Erskine's *Principles*.

Institute of France, *see* ACADEMY.

Institutes, a term borrowed from the civilians (civil law) to denote text-books containing the fundamental principles of a legal system. The I. ascribed to Gaius were discovered accidentally by Niebuhr at Verona, and on translation at once became a leading feature of the study of Roman law. Gaius' I. were found to be the basis of Justinian's I., which, with modifications to suit subsequent changes in the Roman law, are a mere imitation of the earlier I. Justinian's I. were expressly published to promote the study of legal principles. The four volumes of *Commentaries upon the Common Law*, written by Coke were by him called I. Such a term might also be applied to the commentaries of Blackstone and Stephen, and with greater appropriateness, for there is next to no scientific arrangement or comprehensive exposition of principles in Coke's work. John Erskine of Carnock, professor of law, wrote an *Institute of the Law of Scotland* during the first part of the 18th century, and this book was for long the leading text-book on Scots legal principles, and is even now often cited.

Institution, one of the necessary steps in the appointment of a parson or vicar. I. which comes after the taking of holy orders and admission by the bishop of the patron's presentation, is a kind of investiture of the spiritual part of the benefice. Its purpose is the entrusting to the charge of the incumbent (*q.v.*) the care of the souls of the parish. I. fills the vacant benefice with the result that no fresh presentation can be made until another vacancy (unless the king be the patron), and the incumbent may then enter on the parsonage-house and glebe, and take the tithes. But he cannot grant or let the tithes until induction, the last step in the process of becoming a parson or vicar. *See* Blackstone's *Commentary*, and Burn's *Ecclesiastical Law*

Instrumentation, *see* ORCHESTRA.

Insubres, a Gallic tribe who crossed the Alps, and were firmly established in Cisalpine Gaul by the later 5th century B.C. Shortly before the first Punic War the Romans reduced them to submission, but they regained their liberties after Hannibal's triumphant progress through Italy. In 196 B.C., however, they finally lost their independence, for the Romans were by that time free.

Insulator, *see* ELECTRIC CABLES.

Insurance, a contract under which one party undertakes for a consideration to indemnify another against certain forms of loss. In the present day the practice of I. has become so general that practically every contingency which may arise as the result of accident may be covered, but the earliest and most widely practised forms of I. are 'Marine,' which applies to ships and property at sea; 'Fire,' which is the I. against fire of property on land; and 'Life.' This last differs from other Is. in that, although a contract to indemnify against loss by premature death, at the same time it provides a certain benefit. For this reason life business is sometimes referred to as 'assurance,' as distinct from 'insurance,' but there is no rule for this, and the terms 'insurance' and 'assurance' are synonymous in the trade.

The first I. business to be practised was *Marine*, and the I. of ships and property at sea dates from so early a period that it is impossible to ascertain exactly when it was first introduced. It is probable, however, that for commercial purposes it originated in Flanders, being introduced into England early in the 16th century. Marine business differs in one notable respect from other Is., in that, although it is done by a number of independent, self-contained companies, a large share is transacted by underwriters. members of a , the name originating from a certain coffee house in Abchurch Lane, where the original members met. Their affairs are arranged by a committee, and the subscribers include the companies who also transact the business. The society has agents throughout the world who keep in touch with the shipping at all the principal ports, and render an account of the same, together with particulars of any casualties which may have happened. An I. is divided amongst a group of underwriters, each holding a small proportion of the total amount at risk. Policies are issued to cover vessels, their freight and cargo, against all maritime risks, which include risks of

navigation, fire and seizure, during a certain period, not exceeding one year, or for a specified voyage. The I. covers the ship or cargo, and includes the cost of the I. upon the whole. Policies may be 'time' policies or 'voyage' policies, as specified above, and are either valued, in which case the sum insured is based upon a specific bill of lading, or open, when the value of the vessel is estimated as at the date of sailing, plus the amount she would have earned on the completion of the voyage and the cargo at its invoice price. The settlement of marine losses is of particular interest, as the question of salvage following a loss sometimes presents considerable difficulty. It frequently happens that a vessel carrying a valuable cargo is sunk where it is possible to salve a portion of the goods insured, and in such a case there are varying methods of effecting a settlement of the claim, and several courses open to adoption by the underwriters. For instance, they may pay a total loss and recover what they can of the salvage, themselves arranging with a firm to conduct the operations, or they may pay the insured's actual loss, after deducting the value of the goods salved, plus the expenses of the operations. The destructible nature of the goods insured is, of course, the principal factor, and the cost of the I. is largely affected by this, but when the difficulty

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value of the cargo, are taken into consideration. It will be readily understood that the settlement of marine losses is a matter requiring the nicest judgment.

Fire insurance was first introduced into this country more than two hundred years ago, being practised later on the Continent and in America. On its first introduction it was a subject of taxation, the amount of the tax, at one time as much as 3*s.* per cent. on the sums insured, varying until 1865, when it was finally abolished. The fire companies, which at one time confined themselves to this class of business, have now generally entered the field of 'accident' business, and for the most part combine all branches of I. In order to arrive at adequate rates it was necessary to obtain records of the fires affecting the different risks throughout the country, and it will be seen that the experience of one company was not sufficient for this purpose. Consequently a ring was formed amongst the various offices, in order to obtain the necessary records from their combined experience. This is known as the 'tariff,' and although several offices have sprung up in recent years outside the ring, fire rates are still founded on the tariffs, which are drawn up by and are binding on the tariff offices. Practically every description of property is insurable against fire, the rates of premium varying according to the hazard of the risk. For example, private houses and their contents, public buildings and property of a like nature, where the risk of an outbreak of fire is slight, are considered non-hazardous and rated accordingly, usually at about 1*s.* 6*d.* per cent. On the other hand, factories

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usual fire risk, are deemed hazardous and are rated according to their merits. Securities, bonds, bills, manuscripts, and money cannot be insured against fire, as it will be seen that no actual value can be attached to a document itself as such, and only the actual value of the damage done by fire can be recovered under a fire policy. When insuring books of account, it is usually stipulated in the policy that only the amount expended in the work necessary to replace the same can be recovered. Pictures and works of art can be insured, the company generally requiring to be satisfied that the sum for which the special work is insured represents its real value. The same property cannot be fully insured in two or more offices at the same time, for the obvious reason, that unless some special precautions were taken in this respect, there would be nothing to prevent a dishonest person insuring the same property in two offices and profiting by a fire. Consequently the insured has to declare in case of loss, that the risk is not covered elsewhere, or if there are two policies in force through any cause all the offices on the risk share the loss between them in proportion to the amounts they have on the risk. Premiums upon fire policies are generally paid yearly, the I. dating to one or other of the quarter days. When the policy becomes due for renewal it is customary for the insuring office to send a notice to the insured person and to allow a period of fifteen days' grace, during which time the premiums may be paid to keep the policy in force for the ensuing year. Where property insured against fire is not confined to a building, for example, timber and other goods on docks, wharves, and quays, or where two or more buildings or their contents are insured in one amount, the I. is made 'subject to average,' which clause runs: 'Whenever a sum

insured is declared to be subject to average, if the property covered thereby shall at the breaking out of any fire, be collectively of greater value than such sum insured, then the insured shall be considered as being his own insurer for the difference, and shall bear a rateable share of the loss accordingly.' The necessity for this clause, where property is insured as described above, is readily understood when it is considered that it is beyond all probability that a fire should break out and destroy two or more distinct buildings having the same owner at the same time, or destroy the goods of one owner at various wharves by one fire, and knowing this an owner would insure the two or more buildings for the value of one, or the whole of his merchandise for the value of a small portion of it were it not that the companies protected themselves by the average clause, which ensures an adequate premium for the amount at risk. There are many other instances where the average clause is applied, but its principle object is as described above, and it is not generally applied to the contents of a specific building, nor to the building itself. The 'special condition of average' is a similar clause, but requires that the property shall only be covered up to three-fourths its value, and not its full value, as in the case of the ordinary condition of average. This clause is also very commonly used notably for farm stock Is., covering agricultural produce over a whole farm. Fire policies extend to cover loss by lightning, but do not cover the following: Loss occasioned by invasion, insurrection, riot, subterranean fire, and explosion, except loss or damage caused by explosion of illuminating gas, elsewhere than on premises in which gas is manufactured or stored, nor do they cover loss to property occasioned by its own fermentation or heating. The considerable improvement made in recent years in the equipments of the fire brigades, which, it may be noted, are partially maintained by the fire insurance companies, has had a marked effect on rates. Moreover, to lessen the risk many properties are now built of fire-resisting materials, and a considerable discount is allowed off the ordinary ratesin such instances. Fire-extinguishing appliances have also greatly improved, and an elaborate extinguishing appliance known as a sprinkler is now largely employed in buildings which, owing to the hazardous nature of the trade carried on in them, were formerly heavily rated by the offices. As much as 40 per cent. off the ordinary premium is sometimes allowed for a sprinkler installation.

Following upon fire business there has come about a comparatively new form of fire I. in the shape of 'loss of profits,' otherwise known as 'consequential loss.' As described above, a fire policy only covers the actual damage caused to property by fire, but it is well known that the loss experienced through inability to execute orders, or to replace stock following a fire is frequently as great to a large business firm as that caused by the actual damage to property. As its name indicates, loss of profits I. covers this loss following a fire, and the modern scientific method of transacting the business may be briefly stated as follows: The sum insured represents the estimated annual profits, including an amount for standing charges, which may have to be continued even though the premises be standing idle—for instance, rent, rates, taxes, salaries to permanent staff, directors' fees, etc., and in the event of a fire, it having been ascertained that the amount of profit insured is not in excess of the net profit earned and the standing charges declared for the year previous to the fire, the settlement is arrived at by paying a percentage on the difference between the turnover during the months following the fire, and the corresponding months in the year previous to the fire. The percentage paid is that which the sum insured bears to the turnover for the whole year preceding the fire. A simple but less satisfactory method of transacting the business is to insure for a percentage of the total fire loss to represent profits, but as the loss in profits cannot be accurately gauged by this means, the method is not generally in favour amongst the offices, and is never adopted in the case of large manufacturing risks.

Life insurance, as previously stated, differs from other classes of the business, in that it provides a certain benefit, the contract being the payment of a stated sum at death in return for a fixed premium, usually payable annually. The earliest life I. on record was made in 1583, but the object of the business in its early days was quite different from that of the present time. It is probable, that Is., which then covered only short periods, were effected in the first instance as a protection to creditors. The Life Assurance Companies Act of 1870 requires that all new companies transacting life business should deposit a sum of £20,000 with the Board of Trade, as a security to policy holders, and that they should publish an annual balance

sheet and revenue account showing their financial positions. Many forms of life I. are now effected, but they are for the most part variations upon the two principal ones, viz. whole life and endowment. The first-mentioned provides, for a certain annual payment, a stipulated sum at death only, and the latter, necessarily at a higher rate of premium, for the payment of a stipulated sum at death, or at the expiration of a certain number of years. Most life companies issue two classes of policies, viz. 'with profit' policies and 'without profit' policies. The former implies, shares in the profits of the company a certain sum declared by the company, and based upon their profits being added to the sum insured under the policy each year. The without profit policy does not participate, the sum insured remaining unaltered until the completion of the contract. This policy is consequently issued at a lower rate of premium. In life I. a person may insure for any amount and in as many offices as he [illegible] for a person to [illegible] life of another unless he has what is known as an insurable interest, that is to say, he must be dependent upon the person whose life he is insuring, or in such a position that he would suffer pecuniary loss at his death. Premiums for this class of business are based upon the probabilities of life. Tables showing the rate of mortality prevailing in various places have been formed, the one which was most generally used for a time being the 'Carlisle' table, which was derived from observations of Dr. Heysham on the rate of mortality in Carlisle between the years 1779 and 1787. This table has been superseded, however, by others constructed on wider and more accurate data. Before a life I. is made, the companies require the proposer to undergo a medical examination which is of a most searching character, and bad health is usually a bar to acceptance, as also is an unsatisfactory family history in the matter of disease. Companies transacting ordinary life business are of two classes, viz. mutual companies and proprietary companies; the former on a mutual basis, share the profits of the business with the policy holders, and the latter belong to the shareholders in the [illegible]. The distinction between these two classes is not of very [illegible] to policy holders, [illegible] paid to the shareholders of a proprietary company represent only a small part of the profits and constitute the usual return for the advantage of additional capital. Two distinct branches of the business are the 'ordinary' and the 'industrial,' the difference being that the ordinary companies seldom issue policies for less than £100, the premiums being paid yearly, half-yearly, or quarterly, and sent direct to the company or the company's agent by the insured. Industrial companies, on the other hand, transact business amongst the working classes and issue policies for much smaller amounts, the premiums being paid weekly and collected by the companies' representatives or agents. It will be seen that the industrial branch involves much greater expense in working, but this manner of effecting small Is. for £5, £10, or £20 is very popular among the working classes who prefer to pay at a higher rate of premium for the advantage of paying a small weekly sum which is collected by the company. When a life I. policy has been in force for a certain length of time, the insured, should he desire to discontinue the payment of the premiums, is generally entitled to a return proportion of the amount he has paid in to the company. This amount, which is known as the surrender value of the policy, varies amongst the companies, and the length of time the policy has been in force. It is also an easy matter to obtain loans upon a life policy up to the amount of the surrender value. 'Child's endowment' is a popular form of life business. This policy ensures the payment of a certain sum at the coming of age of the child insured, the premiums varying in accordance with the age of the insured person at the time of the issue of the policy. Should the child die before the age at which the policy should h[illegible] the premiums to the parent [illegible]om the I. was [illegible]nt point for a person who is about to effect a life I. to remember is the necessity of all questions asked by the company being carefully and correctly answered, as it is the proposal form and medical report upon which the I. is based, and any misstatement as to age, family history, or the health of the proposer, is sufficient to render the policy void. No life I. is payable to the heirs of an insured person in the event of his [illegible] unless this takes place after [illegible] of a certain length of time [illegible] date when the policy was [illegible]d. This length of time varies, but is generally twelve months. Life I. premiums may be deducted from the amount upon which income-tax is payable.

Casualty and contingency insurance.—This class of I. business has seen considerable developments in the past few years, but before considering Is. coming properly under either of these heads, it would be well to pay attention to two classes of business which are very extensively practised, but must be considered independently. These two classes are 'live stock' and 'boiler' I. In connection with live stock I., the commonest are those on horses and oxen, and are widely effected by farmers and cattle breeders. Mares are insured against foaling risks and other animals against accidents, disease, and fire. Age is a great factor in the premiums charged, and generally the animal insured cannot be covered for more than two-thirds of its market value, the object of this being that greater care will be exercised in looking after the animal by the insured, if he will suffer a proportion of the loss in case of its death. This class of business is not general amongst I. offices, but is confined to one or two companies who make it a speciality. Boiler I. has only recently been taken up by a few of the companies transacting other classes of business, and until recently was done only by one or two offices who confined themselves wholly to the business. The policy covers damage to the boiler and damage to surrounding property, or injury to persons caused through an explosion. This class of I., however, provides an additional benefit in the shape of a thorough annual examination of the boiler and more frequent internal inspections. The Factory Act of 1901 requires that all users of steam boilers must arrange for an examination at least every fourteen months, and if required the I. company transacting the business will generally arrange for the necessary inspection without the I., of course, at a cheaper rate. It will be seen from this that the business is something more than the ordinary I., and is consequently a class apart. Other sections comprise 'engine' I., 'electrical machinery' I., and 'lift' I. Accident business, as it is generally known, as distinct from fire and life, comprises many classes of 'casualty' I., chief amongst which is 'personal accident.' At one time this was confined practically to the I. of travellers by train, and took the form of the payment of a small sum to cover a single journey. This ensured the payment of a certain amount in the event of accident resulting in the death of the insured during that journey. The present form of accident policy takes much the same form, with the exception that the premium, which is generally paid yearly or half yearly, is adjusted to cover certain varying sums in the event of death or disablement, the result of accident from any cause during the year. The policy also includes the payment of a weekly allowance during total or partial disablement, and another form of policy includes disablement from certain specified diseases, or, for a necessarily higher premium, disablement from any form of sickness. The date at which accident business commenced the development which has resulted in its present widespread practice was 1880, the year of the Workmen's Compensation Act, which rendered the employer liable in a far greater measure than had previously been the case for accidents to his workpeople during the course of their employment. In this year certain offices were formed to transact employers' liability business together with other casualty I. The Workmen's Compensation Act of 1906, which brought under the scope of the Act every employer of labour, still further increased the demand for this class of I. and several new offices were formed, whilst in addition the old fire companies extended their operations to the accident field. The principal forms of casualty and contingency business comprise personal accident, workmen's compensation, motor car, burglary, and plate glass. Personal accident, which has already been described, is a perfectly simple contract to indemnify an insured person against loss, the result of accident or disease, and it may be mentioned here that a small proportion of this business is transacted on industrial lines, by the payment of a small sum collected each week. Workmen's compensation is an I. effected by the employer of labour to cover himself against loss by accident to his workpeople occurring during the course of their employment, and for which he is liable under the two Acts above mentioned and at common law. The I. is based upon the total wages paid by the employer, and a certain rate per cent. according to the light or hazardous nature of the work done, is charged upon such total wages. In return the I. company takes over the whole of the liability, including any legal expenses which may be necessarily incurred. This business has been found by the companies to be a very difficult one to write, and in many instances heavy losses have been experienced. Since the Act of 1906 rates have steadily risen, and the bulk of opinion amongst the companies at the present time, is

that even yet great revision will have to be made before this class of I. is placed upon a fixed and profitable basis. 'Motor car' I. has been practised to any extent only during the last ten years, but with the growth of the industry it has already assumed considerable proportions, and it is estimated that the premiums derived from the class by all the offices at the present time do not fall far short of £1,000,000. The policy usually covers the four risks, fire, burglary, damage by accident, and claims by the public. 'Burglary' I. in some respects bears a resemblance to fire I. in that it is effected on similar lines. Each risk is rated on its own merits, and the rate depends entirely upon the nature of the goods to be insured and where the same are stored. It is obvious that in the case of valuable portable goods the rate of premium charged is considerably higher than that for more bulky and less valuable articles. In order that an adequate premium should be obtained, it is generally required by the insuring office that the property to be covered against burglary should be insured for the same amount as is placed upon it for fire I. Burglary policies can, for a higher premium, be issued to include larceny, as distinct from burglary and housebreaking. 'Plate-glass' I. covers glass in any property against breakage through any cause, and a considerable amount of this business is now transacted in the country, several mutual offices having been formed which confine themselves entirely to the class. 'Fidelity guarantee' enables an employer to insure against loss through the dishonesty of his employees. This has proved a very popular form of I., and it is now a common practice on the part of employers to require fidelity guarantee bonds from any of their servants holding a position of trust. From these common forms of casualty I. there have been evolved many others, not perhaps so widely known, but still largely practised and of great convenience. The owner of vehicles can insure against all damage through accidents to his live stock or vehicles, or against any claims which may be made upon him by the public through the carelessness of his drivers. This last is known as third party 'I., and another form of it is public liability, under which class a firm may [illegible] upon their [illegible] accidents [illegible] premises. The provision dealer may insure against claims made upon him through ptomaine poisoning, the dentist against claims through defective work, and so on. Largely through the introduction of casualty I. within comparatively recent years, the practice of I. has extended to such an extent that, as previously stated, practically every contingency which may arise as the result of accident has been provided for.

Insurance, National, *see* NATIONAL INSURANCE.

Intaglio, strictly speaking, a gem, on one surface of which a design has been hollowed out so that if this side is stamped upon some soft material like wax, the design is impressed and stands out in relief. Is. among the Assyrians and Babylonians were usually cylindrical in shape, like the chalcedony signet of Darius I. of Persia, the workmanship of which is so justly admired to-day. The Egyptians used to cut their seals on the flat basis of the 'scarabeus' or sacred beetle—a form which is very common also in Greek Is. Gem-cutters at first used serpentine, but as their skill increased they preferred to work in onyx and other harder stones. Is. exist of gods, mythical heroes, historical people, etc., the best dating usually from one of the first three centuries B.C.

Integer, a Latin adjective meaning 'untouched,' 'whole,' used in English as a noun meaning 'a whole number,' as opposed to a fraction.

Integration, a mathematical process of summation which makes it possible to find the areas enclosed by curves and the lengths of arcs. To determine an area, the method is to divide it up into a large number of very thin rectangular strips. From its definition as a summation I. may be proved to be the inverse process to differentiation. The sign for I. is $\int$.

Intellect, *see* PSYCHOLOGY.

Intendant (Lat. *intendens*, from *intendere*, to watch over), the name given in early French history to an official invested by the king with an important commission, such as the levying of taxes, the administration of financial matters generally, etc., etc. The *intendants des provinces* date from the last thirty years of the 16th century, and were sent by the king to restore order in the provinces after the civil wars. In 1789 the office was abolished by the National Assembly, but the dignity was restored by Napoleon under the title of 'prefect.' Consult G. Hanotaux, *[illegible] de l'institution des intendants [illegible] inces*, 1884.

[illegible]ive Cultivation, or **French Gardening**, a highly organised system adopted by the *maraîcher* in the neighbourhood of Paris. Since 1905, much interest has been taken in the subject, and a number of gardens on

similar lines have been laid out, notably at Evesham, Worcestershire, and Mayland, Essex. The wonderful results promised from it have led to disappointment, for it requires an extraordinarily heavy capital outlay per acre, and the annual expenses for labour, manure, rent, water, carriage, etc., are rarely less than £350 per acre. The essential feature of the system is to utilise every yard of space to its utmost capacity in the production of crops a week or two earlier than those raised under ordinary conditions. The soil is warmed in the colder months by slowly fermenting manure, and frames or *cloches* (bell glasses) are used to retain the heat and moisture. When necessary, further protection is afforded by straw mats which the *maraîcher* makes himself of rye straw. Watering is a very important operation, daily soaking showers being the rule, but, of course, perfect drainage is essential to avoid waterlogging the roots. Well-equipped gardens have water conveyed by underground pipes to numerous convenient points for easy watering with the hose pipe. In a few years the enormous quantities of stable manure used (as much as 500 tons per acre being a common application) results in a thick layer of rich porous soil which is so valuable that many *maraîchers* stipulate their right, on quitting their tenancy, to carry away this artificial soil with them. An absolute essential to success is the nearness of a good market.

Interbourse Securities, stocks and shares of an international character, *i.e.* those that are bought and sold on the London Stock Exchange, Wall Street, the Paris Bourse, the German Stock Exchange, or any of the various stock exchanges of the civilised world. The best examples of such securities are government stock or shares, like Russian or Turkish bonds (but not British Consols, which are held almost exclusively by people in England), great government loans, American railway bonds, and East Indian securities. The business of negotiating the sale or purchase of I. S. is done [illegible] whose mode of [illegible] in I. S. is to p[illegible] stock exchange a certain quantity of securities, and synchronously or practically synchronously to re-sell or re-purchase (as the case may be) on the stock exchange of another country similar stocks or shares to such an amount as from the price (ascertainable by wire) will suffice to cover not only the incidental expenses of interest, commission, etc., but also brokerage. The great benefit of this arbitrage traffic is the resulting equalisation of and stability in the prices of the great majority of I. S.

Intercalary Days or Months, the term given to months or days inserted in the calendar between others to adjust the reckoning of the year into agreement with the solar year. The word 'intercalary' thus means something inserted or placed between, and is used for anything interrupting a series.

Intercommuning, Letters of, an obsolete term of purely historical interest, denoting letters or writs once issued by the government through the Privy Council forbidding all intercommuning or intercourse with persons who had refused to appear before the Privy Council in answer to a citation.

Interdict. Like the I. in Roman or civil law, and the injunction (*q.v.*) of English law, the I. in Scots law is a decree or order of the court to restrain any act or proceedings alleged to constitute an infringement or threatened infringement of another's rights. Like injunctions, Is. are either interim or final. An I. may be granted either by the Court of Session, the sheriff courts, or the inferior or burgh courts. The procedure is by presentation to the Lord Ordinary of a note praying for suspension and I., to which note must be annexed a statement of the facts of the case. If a *primâ facie* case is proved, the Lord Ordinary will immediately grant an interim I., and order the respondent to file answers to the note, unless the latter has lodged a *caveat*, when he will not grant such I. until the respondent has been given an opportunity of being heard. On the respondent being heard the Lord Ordinary may refuse or grant an interim I., and may make it conditionally on the complainer finding *caution* (security) to indemnify the respondent if at the trial he fails to make out his case. The note of suspension and I. having been passed, the case goes to trial, when a final or perpetual I. may be granted or refused. The procedure in the inferior courts is by way of summary petition and not by note of suspension and I. In the Sheriff Court there is no application for suspension, but only for an I. For illustrations of the matters in which an I. may be obtained *see under* INJUNCTION.

Interdict, an ecclesiastical censure or sentence which prohibited the divine services, either to particular persons or particular places, or both. Private baptism was allowed during the time of the I., but the Holy Eucharist was not, except at the moment of death, and Christian burial was denied in any consecrated

place except it were done without divine offices. These Is., though frequently exercised in the middle ages upon whole villages, towns, provinces, and even kingdoms, have been abolished so far as England is concerned since the Reformation. The effect of the placing of England under an I. by Pope Innocent III. on March 23, 1208, in retaliation for John's expulsion of those monks who had consented to the appointment of Stephen Langton as primate, is graphically described by Hume. Marriages, it seems, were only celebrated outside the churches, and the dead were buried in ditches and waste places without funeral rites. In the end John bowed to the will of the pope. Ecclesiastical Is. are unknown in the history of the United States. *See* Burn's *Ecclesiastical Law.*

Interest, an allowance made for the use of borrowed money or capital. The ratio which the I. bears to the loan or principal per annum is the rate per cent. I. is payable periodically, usually half-yearly in commercial transactions, but frequently monthly in the case of loans by registered moneylenders or by persons who ought to be so registered. I. is either simple or compound: the former being payable on the principal alone, the latter on the amount of the principal and interest as and when it falls due. The exaction of I. was prohibited in England as early as 1197, and the prohibition rested, as elsewhere, upon religious grounds. Probably no one at the present day, now that the views of Bentham and Mill have sunk deep in the national mind, would venture to reprobate I. upon any principles so bigoted as those which obtained in the days of the usury laws, and which were nothing less than an application to a Christian country of doctrines derived from the Jewish laws, although, paradoxically enough, the hatred of the Jews at the time of their [illegible] in 1189 and expulsion in [illegible] due to the fact that most [illegible] money was made by moneylending, a trade in which they figure as largely at the present day, though they now habitually carry on business under fine old English names. The usury laws fixed a maximum rate of I., varying at different times from 10 to 5 per cent., long after every one had been convinced that the most entire freedom in commercial matters was both the right of the private individual and the benefit of the community. This anachronism was partly to be accounted for by Adam Smith's approval of those laws, that classic economist, although by no means in favour of the usury laws, categorically affirming that only prodigals and projectors could require to borrow money at more than the market rate of I. Bentham was the first writer who openly and systematically condemned the usury laws, and since he wrote no legislature has ventured to do more than 'reopen an unconscionable bargain,' and in other ways to regulate the status of moneylenders, [illegible] importance on form- [illegible] Bentham, [illegible] usury laws to [illegible] attaches too much importance to that source. Aristotle's condemnation of usury rested on the assumption that 'money is in its nature barren,' and that I. was the productive addition to an unproductive object, which view became traditional and is quoted in Bastiat's works as a popular fallacy among socialists. It is almost superfluous to say that to repudiate I. on advances is in effect to prohibit profit altogether, and effectually to stop all exchange by removing its motive. Bentham's other reasons against the usury laws are that it is a work of supererogation in the legislator to prevent, or attempt to prevent, prodigality; but that the restraints under discussion did not even so operate, for a spendthrift, having no security to offer, is no more likely to get money at a high than a low rate of interest; and that the usury laws did not protect indigence, because though they might prevent a poor man from borrowing at a high rate, they contained no provisions for compelling the rich to lend him at a lower rate. An elaborate refutation of the dogma that a free access to the money market tends to encourage projectors is also one of the most trenchantly successful criticisms in the *Defence of Usury*, based as it is upon what now seems so obvious, that even if the usury laws did throw obstacles in the way of the rash and useless schemer, they equally dis- [illegible] prevented [illegible] triumphs of invention. Mill points out that necessitous people must perforce borrow, and in evading the law will pay far more in the end for pecuniary accommodation than could have been the case if the laws had not existed. Mill also regards it as a fundamental error to suppose that the rate of I. is really made lower by law than it would be by the operation of the ordinary law of supply and demand. Probably most of these criticisms would find favour to-day. All restrictions have been long since abandoned by the legislature, and the rate of I. left to the discretion of lenders and borrowers; but the courts

of equity may interfere to prevent fraud and overreaching, and, of course, loans to infants are invalid (*see* CONTRACT, INFANT). Under the Moneylenders Act, 1900, the courts may reopen moneylending transactions of a 'harsh and unconscionable nature' and reduce the rate of I. That the Court of Chancery and the magistrates constantly use their powers under this Act modifies the occasionally one-sided nature of the arguments of Bentham and Mill, both of whom seemed to lose sight of the fact that the natural law of supply and demand can hardly be invoked to support a contract by which a man has borrowed more money at an extortionate rate of I. in the fatal belief that he can thereby repay an earlier and equally extortionate loan. Even if to devote one's capital to such a purpose can be said to be natural, it is neither a moral use of capital nor a user for such highly productive purposes as can or ought to be found elsewhere.

It is an economic commonplace that the rate of I. is the same in all trades in the same country and at the same time—a law which rests for its validity on the elimination from profits, of compensation for risk, of dishonourable reputation and everything but pure I. on capital. But the risk in some occupations being greater, and some trades requiring more superintendence than others, there must always be differences in the rate of I. or profits in different trades at the same time; and in those trades or businesses in which the rate is higher than the bank rate—the criterion of the average rate—some economists contradistinguish such higher rate by the name *false* I. It is an accepted position in economics that as wealth and population increase the rate of I. declines, because, among other causes, wealthy and populous communities afford less and less scope for any given quantity of labour and capital, a tendency which is the root principle of the Ricardian theory of rent; and again the increasing export of capital tends to produce a uniform rate for all countries. *See* Bentham, *Defence of Usury*; Böhm-Bawerk, *Capital and Interest*.

Interference, a term which, in physical science, indicates a phenomenon depending upon the action at one place of two sets of waves or vibrations. A familiar example, which can be used to illustrate this, is obtained by dropping two stones into a still pond at the same time. Circular ripples will be set up from each stone, and will eventually meet, causing disturbance. It is almost axiomatic that the greatest disturbance will occur when trough meets trough, or crest meets crest. And were the waves set up by the dropping of each stone equal in length, then when crest met trough, or *vice versâ*, the wave motion would be entirely annihilated. This in brief, and very simply, explains the phenomenon of I., and this shows itself wherever we have wave motion. It can be seen, therefore, that it becomes a fundamental principle, in the sciences of light, sound, and electricity in particular. In these cases, however, the waves are usually too small for I. to be detected or observed by the senses, unless there is a continual succession of the two waves, reproducing the phenomenon at the same place for a long while. Thus in light it is necessary, in order to study I. effects, to obtain the two sources from the same ray. For the great complexity of light waves, and the fact that the waves act in all directions at right angles to the direction in which they are propagated, are conditions which prevent I. effects, which are visible to the naked eye, being obtained from two trains of equal waves, vibrating in mutually perpendicular planes. A simple experiment demonstrating I. in light is, however, that known as Grimaldi's, as modified by Young. A simple ray of light, which we shall regard as homogeneous, is introduced into a darkened chamber, through two small apertures which are close together. These two divergent rays will interfere, with the result that on the screen opposite will be shown a series of bright bands separated by dark ones. The central one, which is the brightest, is placed so that all points on it are equidistant from each aperture, and is formed by the meeting of crest with crest and trough with trough. The next bright band on either side is formed by the meeting of crest with crest and trough with trough, but in this case because it is the locus of all points whose distances from the two
wave length of
each dark space is, of course, the locus of all points where crest meets with trough and trough with crest. Theoretically the series of I. bands is composed of an indefinite number, but the fading away in brightness of these bands in practice is explained by the great difficulty of obtaining pure homogeneous light. Thus with sunlight it is impossible to obtain dark spaces, because when some of the rays in it, say, for example, the red, are annihilating each other, then some others, *e.g.* the blue, are interfering so as to intensify each other. It is in this manner that the coloured

effects produced in soap bubbles can be explained, while Newton's Rings, diffraction gratings, the coloured rings seen round the sun and moon, are all examples of I. Neap and spring tides, *beats* in sound, and shadows of both sound and light are also caused in the same manner. *See* SOUND, NEWTON—*Newton's Rings*, SOAP BUBBLES, SPECTRUM, DIFFRACTION, POLARISATION OF LIGHT, and ELECTRICITY—*Electro-magnetic Waves and Maxwell's Theory*.

Interim (Lat., in the meantime), the name given during the Reformation to certain attempts made in Germany to draw up a formula which would serve as a basis of agreement between Catholics and Protestants, until such time as a general council could be held. Three distinct attempts were made to bring this about, resulting in the 'Ratisbon Interim' in 1541; the 'Augsburg Interim' in 1548; and the 'Leipzig Interim' in 1548. Not one of these proved satisfactory. *See* Bentel, *Ueber der Ursprung des Augsburger Interims*.

Interjections (Lat. *inter*, between; *jacere*, to throw), one of the parts of speech—natural ejaculations, expressive of some feeling or emotion; properly the movements of the vocal organs, accompanied by voice, such as 'oh,' 'ah,' 'eh'; but in a general sense applied to vocatives and imperatives when employed as isolated exclamations, such as, 'heavens,' 'goodness gracious,' 'by Jove,' 'stop,' 'go on,' etc., etc.

Interlaken ('between the lakes'), in canton of Bern, Switzerland, a health resort much frequented by visitors, with an elevation of about 1863 ft. It is 26 m. S.E. of Bern, between the lakes Thun and Brienz, on the R. Aar, and is one of the most charmingly situated spots in Switzerland. It has magnificent mountain scenery, the Höheweg commanding a fine view of the Jungfrau. Pop. 2600.

Interlineations, in law, denote additions to or alterations of a written instrument made either before or after the execution of the instrument. As a rule I. made after execution having the effect of altering or amending the instrument in a material particular will prevent the enforcement of any rights created under the instrument. It is otherwise with I. made before execution provided they were made with the consent of parties whose rights are affected by the instrument. The rule of evidence is that I. on the face of a deed are, in the absence of evidence to the contrary, presumed to have been made prior to execution; but in a will I. are presumed to have been made after the testator signed his will. I. which do not affect the rights of parties who are under any liability created by the instrument are immaterial. I. made in a will should always be signed and attested, as in the case of the body of the will; and a similar precaution should be observed in regard to those made in a deed or other instrument.

Interlocutor, in Scots law, strictly a judgment or judicial order pronounced in the course of a suit, which does not finally determine the issue (*cf.* INTERLOCUTORY PROCEEDINGS). But in practice it appears to be applied to all judgments or orders of the court, whether they finally dispose of the case or not.

Interlocutory Proceedings. Applications or motions before a judge, master, or district registrar in chambers, for some preliminary order, decision, or judgment in an action, are called I. P. An order made in I. P. does not finally dispose of the case, but, as a rule, decides some matter incidental to the proper conduct of an action. Interim injunctions (*see under* INJUNCTIONS), however, although not final, have the effect of final judgments if on the trial it is established that a proper case has been made out for an injunction. Application in chambers must be made by summons, or by notice of application under the summons for directions (or summons which asks the master to give directions as to the future conduct of proceedings in such matters as discovery of documents, pleadings, etc.), unless made *ex parte*, when no such formality is required. Applications to the court are made by motion, and, as a rule, at least two clear days' notice of motion must be given, unless the court gives leave to the contrary. As a rule every Friday in term time is allocated for motions in the Chancery Division, on which day numerous motions may generally be heard for the appointment of receivers, and for interim injunctions to restrain infringements of patents, or for any other matter. Other very usual applications in the courts are to expedite a trial, to strike a case out of the list for default of pleadings on the other side, and indeed in any matter of urgency, public or private. Very common applications in I. P. in the King's Bench Division are those for an extension of time for taking the different steps in an action, or for filing answers to interrogatories (*q.v.*); to pay money into court instead of defending an action; for discovery and inspection of documents, or admission of facts by interrogatories; for leave to serve an interpleader (*q.v.*) summons; for

security for costs against a party to an action; to change a place of trial; and for further and better particulars of statement.
Costs of I. P.
of the trial.
peal from a motion order or other decision in I. P.

Interlude (Lat. *inter*, between, *ludus*, play), a short piece or musical phrase performed between the acts of a play or between the verses of a hymn. In drama, a short performance given between the parts of a play or in the intervals of a banquet or court pageant. The characters were as a rule merely personified qualities such as Mercy and Youth. This kind of stage production, as well as moralities and mysteries, succeeded the older miracle plays, and in the early part of the 16th century, with the comedies of Naall and the tragedies of Sackville and Norton, kept the dramatic field until the appearance of the new school created by the Elizabethan dramatists. John Heywood (1497-1580) wrote Is. and introduced a notable change into his characters by making them represent types and classes of men, such as pedlars and friars, instead of qualities. His principal Is. were: *Johan, Tyle his Wife, and Sir John the Preeste; A Mery Play betwene the Pardonere and the Frere, the Curate and Neighbour Pratte;* and *The Play called four P.'s, a new and very Mery Interlude of a Palmer, a Pardoner, a Poticary, and a Pedlar.*

Intermarriage, *see* CONSANGUINITY and MARRIAGE.

Interment, *see* BURIAL, CUSTOMS AND LAWS OF.

Intermittent Fever, *see* MALARIA.

International, The. Although the International, as the International Working-men's Association was more generally and briefly called, is no longer in existence as a formal organisation, the ideals for which it stood and to a certain extent the methods by which it sought to realise them, are as widespread to-day as they have ever been. This is not to be wondered at when it is remembered that its virtual founder was Karl Marx, the father of modern, or 'scientific,' Socialism; that Socialism has always had an international character: and that the Socialist parties in all countries are, numerically at least, stronger than ever before. The
tional may be
In September
eeting was held
in London at which it was decided to form an international association of working men. This decision crystalised a growing fraternal sentiment that had been fostered by a visit of French workmen to the International Exhibition in London in 1862, and curiously enough (in view of subsequent events) the organisation was at first countenanced, if not supported, by the Emperor Napoleon. Marx dominated the organisation from the first, and drew up its statutes, which were adopted by the first congress held in Geneva in 1866. the International became more and more Socialist in outlook, and when in 1869 Michael Bakunin, the Russian anarchist, entered it with his followers, that body became still more revolu-
necine struggle between them and the Socialists. From this struggle Marx and his followers emerged victorious, and the conference at the Hague (1872) expelled the anarchist element. From this expulsion the association never recovered, and although it held one more conference, that at Geneva (1873), it may be said to have ceas
Bakunin's
little while
Latin countries. To all intents and purposes the period between 1873 and 1880 may be considered as having no organisation giving expression to international working-class opinion. In the latter year, however, an international Socialist congress met in Paris to celebrate the centenary of the Great Revolution, and since then congresses, at which Socialists from all over the world have been represented, have been held triennially in different countries.

International Law, a comprehensive term (coined by Bentham) denoting the sum of those rules of conduct which obtain among modern civilised nations, and which regulate their mutual relations and intercourse. The 'persons' or 'parties' known to I. L. are states, and normally such sovereign independent states as are recognised members of the family of nations (on the nature of the artificial conception of state, *see* GOVERNMENT, STATE), or that 'aggregate of states which, as the result of their historical antecedents, have inherited a common civilisation, and are at a similar level of moral and political opinion' (Prof. Holland). The question how far this international or rather inter-state code of morality may appropriately be designated 'law' has formed the subject of an extraordinarily prolific literature. One school of jurists follow the narrow but logical Austinian analysis of law, maintaining that no rule can be a law positive unless set by a given sovereign to his subjects

and sanctioned by force, and that international 'law,' which must not be confused with the *jus gentium* of the Romans (*see* EQUITY), is no more than a body of principles, adherence to which on the part of individual states or nations is sanctioned by the fear of war. But another school of publicists and jurists, while not for the most part venturing directly to controvert the Austinian analysis, assert that laws are not necessarily sanctioned by force so much as by the play of public opinion, and that the want of an actual authority ' observance will not depriv legal character rules wh habitually and conscientiou without any thought of fea by some controlling authority. The mere fact, however, that no modern civilised state would openly declare its unwillingness to be bound by such rules as have now received the seal of international approval at the Hague conferences, and that many have submitted to arbitration with at least a show of good grace, does not alter the fact that treaties or conventions are frequently violated and immunity gained only at the price of fear of superior armaments. The true view would seem to be that a positive or municipal law and a rule of international morality have points of resemblance, but differ essentially in point of promulgation and enforcement. There is a similarity from the fact that conformity to each does to a great extent rest upon consent freely given from the recognition of an inherent and sound ethical standard based upon Christianity in the rules themselves. The jurisprudential aspect of I. L. is neatly summarised by Pr[illegible] ishing point lacks any ' tions, save and above the disputant parties themselves, and since, in proportion as it tends to become assimilated to true law by the aggregation of states into a larger society, it ceases to be itself, and is transmuted into the public law of a federal government.' The whole question seems to be purely a[illegible] for the different subjects of [illegible] nations are not the more [illegible] to observe international conventions and usages merely because they are labelled 'law.' A growing consciousness of the evils of war, not only on the emotional side of the question, but from the merely economic standpoint (*see* Mr. Norman Angell's *The Great Illusion*) is a far more efficacious guarantee of a later and universal reprobation of the breach of the international code than the fear of a lawgiver.

Agencies or sources of international law.—These, according to Wheaton, are: (1) Text writers of authority on the approved usage of nations, such as Ayala, Grotius, Puffendorf, Bynkershoek, and Vattel; (2) treaties of peace, alliance, and commerce; (3) ordinances of particular states prescribing rules for the conduct of their commissioned cruisers and prize tribunals; (4) the adjudication of international tribunals, such as boards of arbitration and courts of prize; (5) written opinions of official jurists

All these sources are invoked by Wheaton as guiding the modern publicist and statesman in the search for a rule so generally recognised as to amount to a rule of I. L. Paradoxically enough, though there was until recently next to no written I. L., there has for some considerable time existed an encyclopædic bibliography of opinions on the principles underlying its now generally recognised usages. But too much importance must not be attached to the opinions of jurists, because, while some rely upon practice and precedent, or the decisions of a court and the act of a government, others prefer the theoretical speculations of eminent predecessors. The latter, however, are in a minority in these days of precedents, though it was otherwise in the days when the works of Grotius, Ayala, and a few others were almost the sole source of information. Treaties are the most important source, if we include under that term every form of convention, contract, or declaration made between or ratified by different states. The Declaration of Paris, 1856, the Geneva conventions of 1861 and 1906, the conventions drawn up by the representatives of most of the leading nations at the various Hague peace conferences have by their combined effect led to the evolution of a tolerably comprehensive body of express I. L., regul[illegible] [illegible] of war, ameliorating [illegible] the sick and wounded [illegible] on land (the Geneva Convention) or at sea (Hague Convention, 1899). The convention of July 29, 1899, was an especially epoch-making document, for it represented the agreement of no less than twenty-four states to submit certain disputes to a permanent court of arbitration, an innovation which still further assimilates I. L. to law proper. Provision was also made for international commissions of inquiry on disputes ' arising from a difference of

opinion on facts, although as to these last-mentioned bodies it was further provided that their reports should leave entire freedom of action to the parties concerned. Such an inquiry was held in the case of the Dogger Bank outrage on British fishing vessels at the time of the Russo-Japanese war. In the express recognition of arbitration as the most efficacious and equitable means of composing differences, it is to be noted that although most European powers have bound themselves to submit to the arbitration tribunal for a period of five years, there is an express condition, 'qu'ils ne mettent en cause in les intérêts vitaux, ni l'indépendance ou l'honneur des deux, états contractants et qu'ils ne touchent pas aux intérêts des tierces puissances.' But who shall say of a matter of international dispute that it does not relate to vital interests, national honou
way
state
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supplemented by the Declaration of London (*q.v.*), which creates an International Prize Court of Appeal, and further regulates the law of *contraband and blockade*. A *novel* feature in regard to the authoritative or binding efficacy of the Declaration of London is the fact that taken by itself it is not like a statute a complete and exclusive statement of law to be interpreted only by the light of its own provisions; because apparently (although it came as a surprise to so eminent an authority as Professor Westlake) the official report, drafted by the committee presided over by the French plenipotentiary, of M. Renault by way of commentary, must, in accordance with the principles and practice of continental jurisprudence, be read with the declaration itself.

The subjects and general principles of international law.—The subjects or persons, as already said, are normally sovereign and independent states. Sovereignty is a fact depending on nothing else than the objective existence of all the ordinary phenomena of political independence; though such external sovereignty may require recognition by other states to enable the new sovereign state to enter the society of nations. The characteristics or elements of international personality are concisely summarised by Mr. F. E. Smith, in his work on *International Law* (Dent & Sons), thus: 'Every society claiming admission to the law of nations must satisfy the following requirements: (1) It must be represented by a government which receives a *de facto* allegiance from its subjects; (2) it must be a sovereign independent state; (3) it must exhibit reasonable promise of durability; (4) it must possess definite territories; and (5) it must be recognised as a member of the family of nations.' In the theory of I. L. a state under suzerainty is no different from an individual state in a federal system (Smith), its subjects being in effect those of the suzerain state. A protectorate occupies an anomalous position midway between an independent sovereign state and a state under suzerainty, for it remains independent and owes no allegiance to its protector, although a part of its rights have been surrendered either temporarily or permanently. But it is clear that a protectorate state, since, *ex hypothesi*, it has transferred its executive and foreign relations to another state, is hardly one the claim of which to the world's recognition of its independence is 'likely to impress practical statesmen' (Mr. F. E. Smith). In some respects it may even be conceded that a chartered company (*q.v.*) is an international person. In the heyday of the East India Company, when that remarkable body employed troops and governed a *great part of India in its absolute* discretion, it would have been the merest pedantry to exclude it from the category of international persons. But in the light of modern state control of these companies, it would be truer, in this content, to follow Mr. Smith's opinion to the effect that all that other nations need know is that a political act of a chartered company is *primâ facie* the act of the country to which it belongs (or from which it holds its delegated sovereign powers), and that redress may be sought from that country for wrongs done by the company.

Just as one individual subject is bound to respect the rights of another to do with his own property just as he will, subject only to the limitation that he does not thereby injure any one else, so in the domain of I. L. the mutual recognition of, or respect for, national independence and integrity is really the ultimate basis of the law governing states in their normal relations. Hence I. L. recognises the right of any state to place itself under any form of government it may choose, and to regulate its domestic concerns as it will. The massacre of the Servian royal family in June 1903, the dethronement of King Manuel of Portugal and the substitution of a republican form of government, the separation of Norway and Sweden, however significant as historical facts, were theoretically no

concern of other nations; though the first-named event for long caused many other nations to refuse to re-

to the Russian government before steps were taken to commit the British government to definite friendly relations with that country; and why a ceremonial visit was being paid by the British fleet when a boy of fourteen and a girl of eighteen had just been publicly executed at Riga; and Mr. Keir Hardie also referred to the anti-Semitic outrages. But these democratic objections to the tradition with not from Sir date officially expressed the well-known principle of I. L. In this connection it is at least curious to recall the differential treatment accorded to the equally sovereign Ottoman Porte in regard to the Armenian massacres. If one nation may massacre its own f in- why d remain subject to the constant humiliation of capitulations (*q.v.*)? The explanation is simple. In some cases the sanction of fear rather than that of public opinion remains as strong as ever.

Again, a state may pursue any commercial or fiscal policy and maintain what armaments it may choose witho of I. L assert perso of their jurisdiction, whether such persons and things are foreign or not. But in a case of conflict of legal principles in regard to the rights of private individuals, the dictates of international comity may be said to have occasioned the habitual application of the appropriate law to each case (*see* COMITY). This application of foreign laws is sometimes called Private International Law; but strictly the word 'international' is inapplicable, and the rules and principles relative to the subject will not therefore be further referred to in this article.

It is also an underlying principle of I. L. that whether an independent nation be strong or weak does not affect its right to equality of treatment and respect in all matters directly or indirectly concerning its interests. Included in the territory of a state are the so-called territorial waters extending for 3 m. out, measuring from low-water mark. It follows also from the general freedom of the high seas that men-of-war and other public vessels on the high seas are, in Professor Oppenheim's words, 'essentially and in every point treated as though they were floating parts of their home state.' Included in such fictional parts of foreign territory are the official residences of diplomatic envoys and ambassadors. Professor Oppenheim, on this question of what comprises state territory, notes that though there is no recognised principle of free navigation on national rivers, a movement for the recognition of free navigation on international rivers set in at the beginning of the 19th century and developed in the case of a number of great European rivers in conventions between the various riparian stipulations at Berlin in d the Niger special international commission called the International Congo Commission to regulate navigation on those rivers.

The detail of I. L. relates to belligerency, or the rights and duties of states in time of war, neutrality, and the process of the pacific settlement of international disputes by arbitration. In regard to belligerency I. L. lays down rules for the commencement of hostilities, and for determining 'enemy character' whether of goods, ships, or persons (*see* ENEMY); it prescribes the permissible modes of warfare, and provides for the proper treatment of prisoners of war and wounded belligerents. Further, it lays down restrictions on the conversion of merchant into war vessels on the high seas, interprets the effect of conquest upon liabilities, and the general operation of treaties, and regularises the practice of pacific blockade. The rights and duties of neutral powers find expression in the rules as to contraband (*see* DECLARATION OF LONDON), the supply of arms by neutral states, the right of asylum, passage through neutral territory, blockade, and the visit and search of neutral merchantmen. As to what acts on the parts of its subjects a neutral government is bound to restrain and what acts its subjects may do at their peril, the *Alabama* case shows that there was no clear principle before the award of 1907 as to whether a government might acquiesce in the preparation and sale of an armed vessel; the analogy to the

principle upon which a government incurs no legal responsibility for the supply of guns being very close. Now neutral governments must use due diligence to prevent the arming or equipment of such vessels within their jurisdiction.

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International Mercantile Marine Company, a company formed in 1902, known also as the Atlantic Shipping Trust (*q.v.*) and The Morgan Combine. It inc ... the White and Red Star lines, Leyland lin- ... Line, and ... (American). of about 126 steamers (1,181,26 tons). Offices are at James Street, Liverpool, and in London at Leadenhall Street, E.C., and Cockspur Street, S.W.

Interpleader. When a person finds himself in the position of being sued for the recovery of money or goods in his possession in which he claims no interest, but to which some third person besides the plaintiff lays a claim, he is not compelled either to incur the cost of defending the plaintiff's action, or run the risk of an action at the instance of the other claimant by handing over the property to the plaintiff. His proper course is to take out an I. summons under Order LVII. (rules of Supreme Court), on the hearing of which the action against him is summarily stopped and the two claimants are made parties to an I. issue. This is called a stakeholder's I., and is to be distinguished from a sheriff's I. The latter case arises when a third person claims goods which have been seized by a sheriff under an execution (*q.v.*) for a judgment debt. The sheriff's course is to serve an I. summons on both the claimant and the executive creditor, and in the case coming on before the master, an issue will be directed for trial, unless the amount in dispute is under £50, when he will himself summarily dispose of it. Where the master directs an issue, the claimant must pay money into court to abide the event of the trial, if he declines the master will make an order for sale (if goods) or payment (if money) to satisfy the judgment creditor's claim. *See* Cababé, *Interpleader.*

Interpolation, the mathematical process of filling in values intermediate between those given in a set of tables, *e.g.* the finding of log 2765473 from logarithm tables which give only log 2765400 and log 2765500. In most simple cases like the example given, it is sufficiently accurate to use the method known as the method of proportional parts. Thus the tables give:

log 2765400 = 6·4417580
log 2765500 = 6·4417737

∴ a difference of 100 is equivalent to ·0000157

∴ a difference of 1 is equivalent to $\frac{\cdot 0000157}{100}$

∴ a difference of 73 is equivalent to ·000000157 = 73 = ·0000115 to seven places

∴ log 2765473 = 6·4417695

A very accurate result may sometimes be obtained from a graph by plotting out the series of tabulated values and then joining up the points by means of a curve as smooth and continuous as possible. This method is especially suitable in many physical examples where the resulting graph takes the form of a well-known curve, and also gives as good a result as we can hope to get in such cases as the estimation of the population of a country at some date intermediate between two censuses (*see* GRAPHICAL METHODS OF REPRESENTATION). As a rule, so long as the successive differences vary very slowly, a simple method is good enough, but where the differences alter rapidly (as for example the differences for 1^1 as the tangent of an angle approaching 90°) another method must be resorted to which involves more advanced mathematical work from the theory of finite differences.

Interpretation Act. An Act passed in 1889 repealing and re-enacting Brougham's Act of 1850 for shortening the language used in Acts of parliament. As to Acts passed after 1850 the Interpretation Act provides that words denoting the masculine shall include the feminine, the singular the ... references t ... in Acts of ar ... to refer to t ... being in the absence of an apparent contrary intention; and also that

where any Act repeals and re-enacts, with or without modifications, any provisions of a former Act, references in any other Act to the repealed provisions shall be construed as references to the re-enacted provisions.

Interrex (Lat. *inter*, between, and *rex*, king), an official of ancient Rome, appointed by the senators on the death of a king to hold the supreme authority in the state during an interregnum, *i.e.* a vacancy of the throne, or suspension of the usual government. In ancient Rome an I. was appointed to hold office between the death of a king and the election of his successor. He held power for five days, and had to belong to the patrician party. The first I. appointed named a successor, and sometimes the nomination continued to a third and even a fourth. Thus the fiction of personal selection was kept up, held to be essential to the proper transference of the religious power of king or consul.

Interrogatories. In interlocutory proceedings in an action at law, either plaintiff or defendant may apply, as soon as the latter has delivered his statement of defence, to a master in chambers for leave to administer I. to his opponent. Before being allowed to deliver I., a sum proportioned to the length of the I., but in no case under £5, must be paid into the security for costs account by the party delivering the I. The other party must answer the I. within ten days or such other period as may be allowed. The I. before delivery are submitted to the master, who may disallow all or any in his discretion. Only such I. will be permitted as appear to the master necessary for [illegible] or for saying is to obtain party with a view to proving one's own case and to ascertain as far as possible the case of the other party. But it is not, at least in theory, permitted to a litigant to institute a 'roving commission' of inquiry so as to work up a case out of his adversary's forced admissions or to defend a just cause by a similar process. I. must relate strictly to the matters or facts in issue (*see under* EVIDENCE), but, unlike pleadings, are not confined to the material facts upon which the parties intend to rely, for they are generally directed to the evidence. The party interrogating is entitled to ask 'anything that can be fairly said to be material to enable him either to maintain his own case or to destroy the case of his adversary.' But he cannot ask the names of his opponent's witnesses, nor, indeed, is he entitled to find out on what evidence his opponent proposes to rely to prove his side of the case. In legal slang this is expressed in the prohibition of 'fishing' I. There are several forms of objecting to answer I., but generally objections must be by affidavit. The customary objections are on the ground of irrelevancy, that one's own evidence is being asked for, that the I. are fishing, that the matter is privileged, and that the contents of a written document are asked.

Interval, in music, is the name for the distance in pitch between two or more musical sounds. The smallest Is. used in practical music are semitones which, in a properly tempered instrument, have always the same distance in pitch between them, and it is the number of semitones contained in the I. between two notes of different pitch which determines the 'size' of the I. Is. are primarily divided into two classes, consonant and dissonant, but the lines of demarcation between the two have been very differently fixed. The Greeks considered the unison, octave, fifth, and fourth more perfect than the other Is.; in mediæval treatises Is. were divided into perfect, medium, and imperfect, the unison belonging to the first class, the fourth and fifth to the second, and the third and sixth to the last; the division into perfect and imperfect is followed by many writers at the present day. The simplest classification is one used in Germany and is this: Is. are reckoned upwards inclusively and by the number of 'names' of notes which they contain; they are in their normal state when reckoned from the first note of the major scale considered, for the time, as the 'tonic.' Normal Is. are 'major.' Is. one semitone 'less' than 'major' are 'minor,' and one semitone 'more' than 'major' are 'augmented,' while Is. one semitone less than 'minor' are 'diminished.' *See* INVERSION.

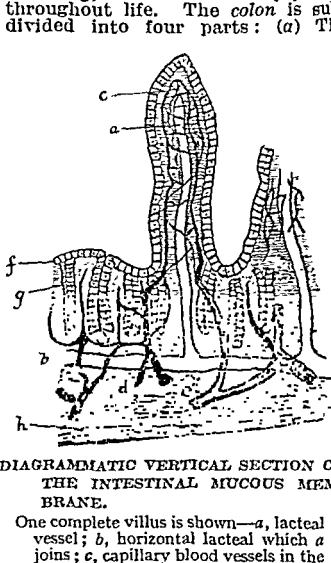
Intestacy denotes the decease of a person without having made a will, or where, though a will has been made, it has been either revoked or annulled for irregularity. A person so dying is said to have died intestate, and such real property as he may have died possessed of descends ultimately to his heir-at-law and his personalty to the next of kin under the statutes of distribution. *See* DISTRIBUTION, STATUTES OF, and INHERITANCE.

Intestina, or Entozoa, the name formerly given to an order composed of worms which live in the intestines of other animals; it included nearly all Metazoa, as distinguished from Protozoa, but has now no technical signification.

Intestines. The I. form that portion of the alimentary canal between the stomach and the anus (*q.v.*).

The *small intestine* is a slightly narrowing tube from 22 to 25 ft. long, and commences at the pylorus end of the stomach and after many convolutions terminates in the large I. It occupies the lower and middle part of the abdomen (*q.v.*) and is surrounded by the large I. The small I. is arbitrarily divided into three portions, viz. the *duodenum*, *jejunum*, and *ileum*. The *duodenum*, about 10 in. long and from 1¼ to 2 in. in diameter, is the shortest and widest part of the small I. It resembles a large C-shaped curve, its concavity embracing the head of the pancreas. It is only partly covered by the peritoneum. The middle descending portion of the duodenum receives the *common bile duct* and *pancreatic duct*. The *jejunum*, about 8 to 9 ft. in length and 1½ in. wide, occupies the upper and left part of the abdomen below the subcostal plane. It joins the duodenal section on the left side of the vertebral column, and is continued into the *ileum*, which is about 12 to 14 ft. in length and 1½ in. wide. This portion occupies the lower and right part of the abdomen and is highly convoluted. Both the jejunum and ileum are attached and supported by an extensive fold of the peritoneum (the *mesentery*). At a point about 3 ft. from the termination of the ileum a small pouch (*Meckel's diverticulum*) is occasionally found, and is probably connected with the persistence of a part of the vitelline duct of early fœtal life.

Large intestine.—This portion of the alimentary canal is 5 to 6 ft. long and extends from the ileum to the anus. It is divided into three parts, viz. the *cæcum* (with the *vermiform appendix*), the *colon*, and the *rectum*. Its diameter varies from 2½ in. in the cæcum to 1½ in. in the lower part of the colon, diminishing gradually throughout its length with the exception of the well-marked dilatation of the rectum referred to later. The *cæcum* is a blind sac occupying the right iliac fossa immediately behind the anterior wall of the abdomen, and extending some 2 or 3 in. below the ileo-cæcal junction. Normally this junction contains the *ileo-cæcal* or *ileo-colic valve*, though cases of the absence of this valve have occurred and no inconvenience has been recorded during life. The cæcum is covered by the peritoneum in front, below, and at the sides. From its posterior and left surface the *vermiform appendix* protrudes and usually is directed upwards and to the left, though it not infrequently hangs down into the true pelvis. Its opening into the cæcum is about 1 in. below that of the ileum. So far as is known, this *appendix is peculiar to man*, certain of the higher apes, and to the wombat; but in some animals a peculiar formation of the distal part of the cæcum may represent a condition of the appendix. Its susceptibility to disease has been dealt with elsewhere (*see* APPENDIX). At birth the cæcum is a cone and the appendix is its apex; it is bent upon itself to form a ʃ, and this form may persist throughout life. The *colon* is subdivided into four parts: (*a*) The *ascending colon*, a portion of the canal about 8 in. long and slightly less in diameter than the cæcum. It is situated in the right lumbar region and ascends vertically to the under surface of the liver, near the gall bladder, where it proceeds forward and bends abruptly to the left (the *hepatic flexure* of the colon). It is overlaid in front by some of the convolutions of the ileum, and is bound down firmly by the peritoneum which passes over its anterior surface and sides. (*b*) The *transverse colon* describes a bow-shaped curve, *the arch of the colon*, and passes across from the right hypochondrium to the left. At each extremity it is



DIAGRAMMATIC VERTICAL SECTION OF THE INTESTINAL MUCOUS MEMBRANE.

One complete villus is shown—*a*, lacteal vessel; *b*, horizontal lacteal which *a* joins; *c*, capillary blood vessels in the villus; *d*, small artery; *e*, vein; *f*, epithelium covering the villus; *g*, tubular gland or crypt of Lieberkühn; *h*, submucous layer.

situated deeply towards the back part of the abdominal cavity, but in the middle it curves forward and lies close to the anterior wall of the abdomen. It is invested by the general peritoneum which forms a separate fold for it (the *transverse meso-colon*). (*c*) The *descending colon* is continuous with the previous portion by a sudden bend, the *splenic flexure*, where is situated a remarkable fold of the peritoneum (*costo-colic ligament*). It descends vertically for about 6 in. to the left iliac fossa, and is usually empty and contracted while the rest of the colon is filled with gas. The peritoneum forms a covering to it only at the front and sides. (*d*) The *sigmoid flexure* is the narrowest part of the colon. Treves and T. Jonnesco have pointed out the inapplicability of the term '*sigmoid flexure*,' and it is now usual to subdivide this portion into the *iliac colon* and the *pelvic colon*. The former passes from the crest of the ilcum to the inner border of the psoas muscle lying in the left iliac fossa. The latter portion of the colon lies in the true pelvis and forms a loop (*Omega loop* of Treves), the convexity of which reaches across to the right side of the pelvis, and the distal end turns sharply downward to the rectum. The *rectum*, the lowest portion of the large I., extends to the anus. It belies its name in the human subject as it has a marked concavity forward corresponding to that of the sacrum and coccyx. It is some 8 in. in length and ends in a dilatation (*rectal ampulla*) which is in contact with the back of the prostate in the male and of the vagina in the female. The peritoneum covers only a portion of the rectum, being reflected down and forming a pouch between the bladder and the rectum in the male, or between the uterus and rectum (*pouch of Douglas*) in the female.

Structure and glands of the intestines.—The I. are composed of an external *serous* or peritoneal coat and three others: *muscular*, *submucous*, and *mucous*. The *muscular coat* consists of two layers of fibres, a longitudinal and a thicker inner circular set. The progressive contraction of the fibres of the muscular coat produces the *peristaltic movement* by which the contents of the I. are forced onwards. In the large I. the longitudinal fibres, instead of being evenly arranged, are, in the cæcum and colon, gathered into three longitudinal bands (*tæniæ*). A contraction of the tænlæ forms a series of sacculi which help to distinguish the large I. from the smoother small I. In the rectum the longitudinal fibres become evenly arranged, and the circular layer is here well developed, as it also is in the duodenum. The *sub-mucous coat* of strong loose areolar tissue is connected more firmly with the mucous coat than with the muscular coat. The *mucous coat* is thick and vascular and consists of: (1) An epithelial layer forming the intestinal glands; (2) a layer of retiform tissue which supports the blood vessels and lacteals, and (3) a thin layer of unstriped muscle (*muscularis mucosæ*). In the duodenum and jejunum the mucous membrane is thrown into a series of closely placed transverse pleats (*valvulæ conniventes*). The largest are about 2½ in. long and ¼ in. wide at the broadest part, and they materially increase the absorbent surface to which the food is exposed. The surface of the small I. is velvety, due to the presence of minute closely-set protuberances termed *villi*; Krause estimates a total of 4,000,000 of them, each covered by columnar epithelium and having a complete system of blood vessels and lymphatics. The mucous membrane of the rectum is thicker, redder, and more vascular than that of other parts of the I., and presents numerous folds running in all directions. Two kinds of small secreting glands are found in the I., viz. the *crypts of Lieberkühn* and *Brunner's glands*, the collected into large oval patches known as *agminated glands* or *Peyer's patches*, the long axes of which, ½ in. to 4 in. long, are arranged lengthways in that part of the tube most distant from the mesentery.

Vessels and nerves.—All parts of the I. are supplied with a very complete system of blood and lymphatic vessels (lacteals) minutely subdivided. The nerves of the I. are chiefly derived from the superior mesenteric plexus, and at first they and their subdivisions cling very closely to the larger arterial vessels; finally they reach the I. in very numerous branches to be distributed and redistributed in the muscular and sub-mucous coats.

Intimidation, *see* THREAT.

Intonation, in music, the opening phrase of any plain-song melody. The term is usually applied to the first two or three notes of a Gregorian psalm-tone, generally sung by one or more selected choristers, or by the *officiating priest*. Its use is, as a rule, confined to the first verse of the

psalm or canticle, though occasionally in the *Magnificat*, *Benedictus*, and *Venite* the opening phrase of each successive verse is sung in this way to give a greater solemnity.

Intoning, the custom of rendering prayers in the form of a musical recitative, similar to chanting, the greater part of the prayer being recited on one note. It can, however, be varied
tain simpl
and sacre
scale, I.
utterance.
doubtedly of ancient date, and obtains among the great majority of barbarous nations, as well as in the Greek, Roman, Anglican, and Lutheran churches.

Intoxication, *see* ALCOHOL, ALCOHOLISM, and DRUNKENNESS.

Intra, a tn. of Northern Italy in the prov. of Novara, situated on the W. shore of Lake Maggiore, about 25 m. N.W. by W. of Como. There are ironworks, and manufs. of silk, cotton, and felt. Pop. 7000.

Intransigeants (literally irreconcilables'), the name given to extreme political parties, for example the revolutionary communists in Spain in 1873-74, the Radical parties opposed to the existing government in France, Italy, and Spain. Intransigentism implies an attitude of uncompromising disagreement with political opponents.

Introduction (It. *introduzione*), a musical term signifying the preliminary to a following movement. Strictly speaking, it is the piece of music with which an opera opens, and is preceded by the overture, but many composers make it take a more important place, and introduce it in the place of the overture proper. Gounod does this in most of his works, Mozart in *Don Giovanni*, and Meyerbeer in *Robert le Diable*. In a wider sense, the introduction is the prelude to a symphony, rondo, waltz, etc. Beethoven made use of it in several of his symphonies, quartets, and overtures, such as in his *Egmont*, and in *Leonora*, Nos. 2 and 3. The majority of Wagner's operas also commence with an introduction, and a short one is often prefaced to the second and third acts as well.

Introit, an anthem sung in the Roman Catholic Church at the beginning of the Mass, as the priest goes up to the altar, immediately after the *Confiteor*. It consists of an antiphon, gloria, and part of a psalm, though other passages of Scripture are sometimes used. The introduction of Is. is ascribed to either Celestine (423) or to Gregory the Great (423). Some of the Is. in the present missal are taken from uninspired writers.

Intromission, in Scots law, the
property
ounds or
ne latter
; *vicious.*
of legal
I. is that of an *adjudger*, or creditor, who has obtained an adjudication by process of diligence against his debtor for the payment out of the rents of his debt and interest. Formerly the adjudger obtained the property in the whole estate, although its value might have been far greater than was necessary to pay off the debt. But now the creditor, generally speaking, gets only so much of the rents as is required for the payment of principal and interest, and is accountable for the residue. The expression *vicious* I. applies to the unlawful taking possession by an heir of his ancestor's *movable* estate. The consequence of such I. is to render him liable for all the debts of the ancestor. The same results now follow in the case of a stranger wrongfully intromitting the movable estate of a deceased person. *See* Bell's *Comment.*

Intuition, in philosophy, a term signifying the mental faculty of spontaneous knowledge of the truth as opposed to its discovery by any ratiocinative process. It was borrowed from the scholastic theology of the middle ages, which reached its height in the teaching of Aquinas, and the feature of which was the systematisation and rationalisation of religious dogma. In particular, I. in scholastic theology meant a knowledge of God obtained by revelation. The term 'intuitional' as used later in the science of ethics is of the first importance, in that it denotes a school of thought diametrically opposed to the utilitarian. The intuitionists define the principles and method upon which are to be determined right rules of conduct by reference to a supposed moral sense, or, in other words, duty is to be measured by certain fundamental axioms or intuitively known principles of moral reasoning. The utilitarians, on the other hand, adopt no such subjective standard of good conduct, but estimate the moral value of an act by reference to the various criteria of utility, general happiness (universalistic hedonism), individual happiness (egoistic hedonism), an objective standard of human duties which is thus contemptuously criticised by Carlyle: 'The word Soul with us, as in some Slavonic dialects, seems to be synonymous with Stomach;' though Carlyle himself, in his somewhat wearisome iteration of the claims of

Right, is perhaps with [illegible] caustically described by [illegible] Chesterton as perpetuall
'as with a kind of *flat-footed stamping*, that people ought to tell the truth; apparently supposing that telling the truth is as easy as blind hookey.' The authority of the conscience or moral sense as opposed to what may generically be termed the social affections was first advanced, among English philosophers, in a distinct form by Butler in his *Dissertation on Virtue*, 1739, and carried further by Reid in the *Essays on the Active Powers of the Human Mind*, 1788. Reid insists on the essential difference between self-love, or regard for one's own good, and sense of duty, or conscience, where Butler seems to have leaned to a belief in their identity in a future life. Reid, like Lecky in the *History of European Morals*, gauges the truth of ethical theories ultimately by the common moral opinion of mankind, and enumerates twelve first principles or Is. from which may be rationally deduced the rules of morality. These consist of such ontological principles as that everything exists of which we are conscious: the thoughts of which I am conscious are the thoughts of a being called myself (*cf.* Descartes, *Cogito, ergo sum*); we may be certain of our identity as far as we remember; a principle borrowed from the Stoics, to the effect that the natural faculties by which we discriminate truth from error are not fallacious; and merely [illegible]at [illegible]ur [illegible] *of Morality* endeavours to formulate a list of intuitive principles [illegible] of all regard for happiness able to the sole governing of conduct, the moral reas Is. are compendiously defi principles of benevolence, j truth, purity and order. duction into the system of the term 'reason,' which, as we have seen, is directly antithetical to the primary notion of I., connotes merely the supremacy of reason over purely nonrational impulses or instincts (*q.v.*). Kant's use of the word *Anschauung* (literally 'beholding') is practically equivalent to perception, and he gives as instances of true forms of beholding, time and space. But regarded subjectively, Kant names such Is. transcendental (unknowable), though objectively they are empirically knowable. The trend of English philosophy may be said to be generally utilitarian, and, comparatively, clean cut, practical, and unimaginative; the continental philosophy, especially of the German mainly intuitional, tinged [illegible] sticism, and fertile in brilagination. Modern thought may be said, indeed, to be for the most part opposed to the identification of reality with the mere phenomena of experience, and to such gnosticism and logical idealism as found expression in the system of Hegel; and to have gone rather to the opposite extreme in the apotheosis of the claims of I. as opposed to reason. For example, Schopenhauer asserts the positive irrationality of things as a definite metaphysical tenet, while the investigation of phenomena is left to the sphere of the narrower sciences.

Intussusception, or **Invagination**, is that condition in which one part of the intestine passes into the adjoining portion, telescopically, just as the finger of a glove may on taking it off the hand. The contained portion is nipped and strangled, with the result that all the dangers of hernia (*q.v.*), but in a much more dangerous form, are present. It is a frequent and fatal cause of obstruction of the bowels in children, and is not very common in adults. The included part becomes gangrenous, and death may follow from shocks. If the patient is strong enough to bear the inflammation and shock, the peritoneal surfaces of the upper and lower portions may adhere at the point where the intussuscepted portion enters the outer one, and the whole included portion may slough away, and be passed by the rectum. Several feet of bowel have been evacuated in that way, and complete recovery may then ensue, but this is very rare, particularly amongst [illegible] gical treatment is usually [illegible] nd consists in opening [illegible] and reducing the intus- [illegible] certain skilful means. [illegible] stages a copious enema [illegible] estore the normal con- [illegible] e use of purgatives can only make the condition worse.

Inula, a genus of composite plants, occurs in Europe, Asia, and Africa, and is represented in Britain by four species. *I. Helenium*, the elecampane, is a perennial herbaceous plant found in moist meadows. The root is officinal and has tonic and stimulating properties.

Inulin ($C_{72}H_{122}O_{62}$) is a starch-like substance which is found in dahlia and like tubers, where it forms a reserve food supply. It is coloured yellow by iodine, and is quantitatively hydrolysed to the sugar fructose by dilute acids.

Invalides, Hôtel des, *see* PARIS.

Invaliding (Fr. *invalide*, from Lat. *invalidus*, not strong), a term used chiefly in military, but also in naval

service, for a soldier invalided home from abroad as being unfit for duty on account of climate, wounds, etc.

Invasion. In the theories of the rights conferred by international law (*q.v.*) on invaders it is necessary to distinguish between military occupation and conquest. Occupation may imply no more than the placing of territory under the authority of a hostile army by way, as it has been expressed, of sequestration, without any intention of appropriating it. Conquest, on the other hand, means acquisition. No such distinction was drawn until the middle of the 18th century, with the result that the inhabitants of a territory in the possession of a foreign army were bound not only to swear allegiance to the invader, but to assist him in all respects as if he were the legitimate sovereign. After the Seven Years' War juristical writings, notably those of Vattel, began to advance the doctrine that a sovereign does not lose his territorial rights in war until a formal cession at the close of the war by treaty. The prevalent modern theory appears to be that the occupying army merely takes temporary possession for certain purposes, while the sovereignty of the original owner *continues for all other purposes. But* until recently the practice of belligerent governments differed from the theory which presupposes that since the invader is invested with no more than a substituted or quasi-sovereignty, the national character of the people and soil remain unchanged. The practice is a corollary of the mere rule of might, that the lives and property of the inhabitants being necessarily at the disposal of the occupant, the inhabitants acknowledged his sovereignty in consideration of his foregoing the extreme rights vouchsafed by superior force. The theory of substituted sovereignty, however, is generally regarded as a useless fiction, and it may be said that at the present day military occupation confers only such rights over the inhabitants and territory as are necessary to the prosecution of the war, or, as Mr. Hall expresses it, 'the right of exercising such control, and such control only, within the occupied territory, as is required for his safety and the success of his operations.' This view has now found expression in the draft articles of the Declaration of Brussels, and the rules formulated at the Hague Conferences as to the rights of an army in occupation of an enemy's territory. The question of what acts an occupying army may legitimately do, depends on circumstances. The general principle, according to Professor Westlake, is that everything is prohibited which is not calculated to contribute to success in the military operation concerned, and that even when a thing does not fall under any absolute prohibition it may only be done in the circumstances and in the measure in which it may reasonably be expected to contribute to such success.

The articles above mentioned prohibit (1) any compulsion of the population of occupied territory to furnish information about the army of the other belligerent or his means of defence; (2) any pressure on the population to take an oath of allegiance; (3) confiscation of private property, but without prejudice to the right to confiscate by way of punishment or under stress of military necessity; and (4) pillage; and enjoin (*a*) the respect of family honours and rights, individual lives and private property, together with religious convictions and liberty, and (*b*) the general duty of taking all steps to re-establish and ensure, as far as possible, public order and safety, while respecting, unless absolutely prevented, the laws in force in the country (for full information on these points *see* Mr. F. E. Smith's *International Law*, Dent and *Sons, Ltd.). The rights of conquest* are, of course, much wider. Mr. Smith defines conquest as the permanent absorption of all or part of the territory of a defeated enemy, but lays it down that a title by conquest is only complete if the conqueror has the material strength to make his conquest good, and has exhibited the intention of appropriation. *See* Hall, *International Law;* F. E. Smith, *International Law.*

Invention, *see* PATENT.

Inventory and Inventory Duty. An I. in regard to the administration of the estates of deceased persons is a list or schedule in which are enumerated all the articles comprising the personal property of the deceased. It also denotes a detailed descriptive list of the assets of a bankrupt, and the property comprised in the schedule to a bill of sale on personal effects. The duty of making an I. of a deceased's effects falls upon the executor or administrator, who should make it in the presence of at least two of the creditors of the deceased or next of kin, or any two credible persons, and it should describe the articles seriatim, with the value at which each has been appraised, especially as it may afterwards be admitted as evidence to show what is due to the beneficiaries or creditors. But to be admissible as evidence it should on completion be signed and sworn before a commissioner for oaths.

It may be noted that any person interested in the estate may call upon the executor or administrator to exhibit an I., and to render an account of his administration. In Scots law the term I., besides the above applications, is used to denote the schedule made by an heir of the heritable estate of his ancestor with the object of limiting his liability for his ancestor's debts to the amount of the value of the estate so inventoried. A tutorial and curatorial I. means an 1. of the whole heritable and movable property of a minor, pupil, or lunatic made under an Act of 1672 by a tutor (guardian) or curator, the procedure in regard to which is now enacted in the Pupils' Protection Act, 1849, and the Guardianship of Infants Act, 1877. Any person who intromits (*see under* INTROMISSION) with the estate or interferes in the management of the estate of a deceased person must make an I. of the personal estate comprised therein. I. duty, which in Scots law is analogous to the English probate duty, is not now of much importance, as it applies only to the personal estates of persons dying before Aug. 1, 1894, having as to the estates of persons dying after that date been replaced, together with probate and affidavit duty, by estate duty (*see* DEATH DUTIES).

Inveraray, the cap. of Argyll, Scotland, and a parl. bor., 45 m. N.N.W. of Greenock, on Loch Fyne. Inveraray Castle, the chief seat of the Duke of Argyll, lies N.W. of the town. It was built in 1744 as the seat of the Argyll family, the head of the Campbell clan, and rebuilt in 1880. Pop. 1204.

Invercargill, the cap. of Southland co., New Zealand, 139 m. S.W. of Dunedin. Its port is Bluff Harbour, which affords good anchorage for vessels under 1000 tons. It has breweries, foundries, large meat-freezing works, and flour and saw mills, and manufs. boots and shoes. Pop. about 12,000.

Inverclyde, Sir John Burns, first Baron (1829-1901), a shipowner, elder son of Sir G. Burns, and eventually succeeded his father in the management of the Cunard Steamship Company. In 1880, on its conversion into a limited liability company, he was appointed chairman. Besides his connection with this line, he also took an active interest in the service between Glasgow and Ireland. In 1897 he was raised to the peerage as first Baron Inverclyde. His publications include: *Something about the Cunard Line; The Adaptation of Merchant Steamships for War Purposes; Glimpses of Glasgow Low Life; A Wild Night*, etc. He was succeeded as chairman of the Cunard Steamship Company by his son G. A. Burns (1861-1905).

Inverell, a tn. and railway station of New South Wales, Australia. It is situated in Gough co., 280 m. N. of Sydney. Silver, tin, and diamonds are mined in the neighbourhood, and vines are cultivated. Pop. 3300.

Inveresk, a par. and vil. of Edinburgh, Scotland, situated on the Firth of Forth. Manufs. paper. The battle of Pinkie (1547) was fought in the parish. Pop. (1911) 20,360.

Invergordon, a bor. and watering-place of Ross-shire, Scotland, situated on Cromarty Firth, with a trade in farm stock and dairy produce. Pop. (1911) 1051.

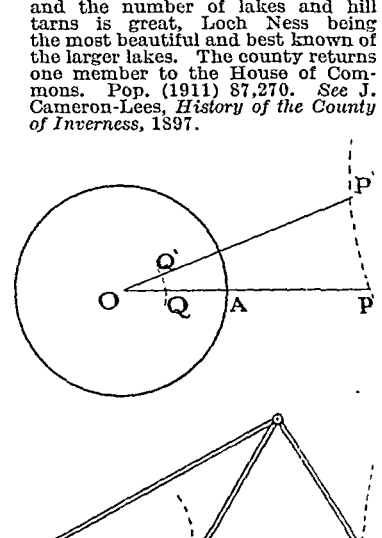
Inverkeithing, a parl. bor. and vil. of Scotland in Fife co., on the Firth of Forth, 10 m. from Edinburgh. It forms one of the Stirling group of burghs. Has a good harbour and shipbuilding yard, and there are mills, tanneries, and brickworks. Pop. (1911) 9626.

Inverlochy, a ruined castle in Inverness-shire, Scotland, on the R. Lochy, 1½ m. N.E. of Fort William. The scene of the defeat of Argyll by the Marquis of Montrose in 1645.

Inverness, a municipal bor. and seaport, and co. tn. of Inverness-shire, Scotland, situated at the mouth of the R. Ness at the junction of the Beauly and Moray Firths, 108 m. W.N.W. of Aberdeen. On account of its beautiful environment and fine buildings, it is the headquarters of an immense tourist traffic throughout the summer. The chief buildings of note are the cathedral, royal academy, and county-hall, and it has a fine suspension bridge, and the famous Clach-na-Cudain, regarded as the town palladium. Ship-building, iron-founding, distilling, and the manuf. of woollen goods are the principal industries, and the town has good roads, and a fine harbour and docks. The open spaces of the town include Victoria Park, and the famous ground where the most important athletic event of Scotland, the Northern Meeting, is held towards the end of September. I. is a town of great antiquity, having been one of the Pictish capitals. Pop. (1911) 22,216.

Inverness-shire, a co. in the Highlands c[illegible] 'rom the Moray [illegible] Ocean. Bound [illegible] and the Beauly Firth, on the S. by Argyll and Perth, on the E. by Banffshire and Aberdeenshire, and on the W. by the Atlantic. It is the largest county in Scotland, and includes several of the Outer and Inner Hebrides. Covers an area of 4211 sq. m. For the most part it is wild and mountainous, and characterised by the most gorgeous

scenery. Several of the mountains exceed 3000 ft. in height, and Ben Nevis, the highest mountain in the British Isles, reaches an altitude of 4406 ft. There are a few fertile tracts in some of the glens and shores of the sea lochs, and in the N. on both sides of the R. Ness. About 5½ per cent. of the shire is culti- ·en- · is W. ·ry are tan- ning. nver- ness, a con- siderable trade, augmented by the traffic through the Caledonian Canal, and is the centre of a railway system, connecting it with Perth, Edinburgh, Caithness, etc. The three great rivers of I. are the Spey, Ness, and Beauly, and the number of lakes and hill tarns is great, Loch Ness being the most beautiful and best known of the larger lakes. The county returns one member to the House of Commons. Pop. (1911) 87,270. *See* J. Cameron-Lees, *History of the County of Inverness*, 1897.



O, Fixed centre; P, Moves along given curve; Q, Tracing point.

Inversion. If P and Q are two points, such that the rectangle OPOQ = the square on radius OA, then Q is said to be the inverse of P with respect to the given circle. If P moves along a given curve, the process of finding the locus of Q (the inverse curve) is called inversion. A simple hinged framework of freely jointed rods affords a mechanical construction for the inverse curve. In more advanced work curves are often inverted with respect to conic sections.

Inversion, in music, a term applied to chords and intervals when the relative position of the component notes is changed. Perfect intervals remain perfect when inverted, but major, minor, diminished, and augmented are reversed by I.; major become minor, augmented become diminished, and *vice versâ* in all cases.

Invertebrates, a collective term for all those animals which agree in not possessing that combination of attributes which make a Vertebrate, namely a dorsal nerve chord, a notochord, gill-slits on the pharynx, a ventral heart, and eyes which are outgrowths of the central nervous system. The chief groups of I. are Protozoa (unicellular) and the Metazoa (multicellular), further divided into Porifera, or sponges; Cœlentera, unsegmented worms; Annelids, or segmented worms; Echinoderms; Anthropoda, including Crustacea, Insecta, and Arachnida; Mollusca. The dividing line, however, is no longer as clear as it was once thought, and some species which were formerly classed as I., such as the Ascidea, are now classed as degenerate vertebrates.

Invert Sugar, an equimolecular mixture of dextrose and levulose (*d*-glucose, and *l*-fructose), obtained by hydrolysing cane sugar with dilute acids. It readily ferments, and is used in the preparation of sparkling wines.

Inverurie, a municipal burgh of Aberdeenshire, Scotland, 16¼ m. N.W. of Aberdeen, at the confluence of the Urie and Don. It forms one of the Elgin group of parliamentary burghs. It is an important centre of the cattle trade with London, and the chief manufs. are mineral waters, paper-making, and milling. Pop. (1911) 3960.

Investiture, in feudal and ecclesiastical history, the act of giving possession of a manor, office, or benefit, accompanied by a certain ceremonial such as the delivery of a clod, a banner, a branch, or some other symbol, more or less designed to signify the power or authority which it is intended to convey. Temporal sovereigns claimed the right of investing the bishops with the temporalities of their sees by the formal presentation to them of the ring and

crozier, a claim which led to the famous 'Investiture Dispute' between Henry I. and Anselm in England, and to the bitter struggle between the pope and the emperors of Germany in the 11th and 12th centuries. At the Diet of Worms (1122), it was finally decided that the emperor should confer I. by a touch of the sceptre only, thus making no claims to confer spiritual power.

Investors' Review, a sixpenny weekly paper belonging to and edited by Mr. A. J. Wilson. It has been published in the present form since *1898, having been previously* issued as a five shilling quarterly from 1892-94, and as a shilling monthly from 1894-98.

Invincibles (Lat. *in* not, and *vincibilis*, conquerable), members of a secret Irish society, composed of assassins and the worst of the Fenian associations. The main object of the society was the assassination of officials. The chief member was known as No. 1, and each was acquainted with but two others—the member by whom he was nominated, and the one whom he in turn nominated.

Involucre, a botanical term used in reference to the whorl or whorls of bracts beneath some flowers. Thus, the daisy head is protected by a number of small and scaly leaves which form an I., and in umbelliferous plants the name is applied to the bracts at the base of the chief branches.

Involute and Evolute, *see* CURVE.

Involution, the mathematical process of raising a quantity to any power. Its inverse process is evolution, the finding of a root. Whereas a quantity has one square, one cube, and generally one *n*th power, it has two square roots, three cube roots, and generally *n* nth roots. In algebra, expressions of one term only are dealt with in indices (*see* INDEX). For expressions of two or more terms, the binomial theorem and multinomial theorem give formulæ. In higher *geometry the name I. is given to a* series of pairs of points on a line, any pair of which P, P^1 are connected by a relation $OP.OP^1=k^2$, where O is the centre and *k* the radius of the I. If D_1 and D_2 are points given by the relation $OD_1^2=OD_2^2=k^2$ each corresponds to itself, and they are known as the double points of the I. If AA^1, BB^1, CC^1 be three pairs of corresponding points the anharmonic ratio of any four, *e.g.* (ABB^1C), is equal to the anharmonic ratio of the four corresponding points, viz. (A^1B^1BC). Also $(D_1D_2PP^1)$ form an harmonic range. I. ranges are of two kinds—overlapping, where the radius and the double points are imaginary and O lies between each pair of corresponding points, and non-overlapping, where the radius and double points are real, and any two corresponding points are both on the same side of O.

Inwood, Charles Frederick (1798-1840), an architect, second son of William I. He co-operated with his father in the designing of Westminster Hospital and other buildings, and also designed All Saint's Church, Great Marlow (1835), and the St. Pancras National Schools, London.

Inwood, Henry William (*1794*-1843), an English architect, eldest son of William I. He travelled in Greece, whence he drew the inspiration for many of his designs in which he was associated with his father. He published: *The Erechtheion at Athens*, 1827; *Of the Resources of Design in the Architecture of Greece, Egypt, etc., obtained by studies from Nature*, 1834.

Inwood, William (*c.* 1771-1843), an English architect and surveyor. In 1821 he planned the new galleries for St. John's Church, Westminster; in 1832-33 designed, with his second son, the new Westminster Hospital and several other London churches. His chief work is St. Pancras New Church (1822), designed after Greek models by him and his eldest son. He published *Tables for the Purchasing of Estates*, etc., 1811.

Io, in Greek legend, the daughter of Inachus, the first king of Argos. Under the name of Callithyia Io, she was regarded as the first priestess of Hera. She was loved by Zeus, who, to protect her from the anger of Hera, transformed her into a white heifer (according to some authorities, the transformation was the work of Hera herself). The hundred-eyed Argus was then set to watch her, but Zeus despatched Hermes to kill him, and Io was released. But Hera's wrath pursued her, and tormented by a gad-fly, she wandered all over the earth, till at last she reached *Egypt, where she was restored to her* original form and became the mother of Epaphus. Æschylus gives a different version of this myth in his *Prometheus*. *See* Engelman, *De Ione*, 1868.

Iodic Acid (HIO_3), a white crystalline solid, obtained by the oxidation of iodine with concentrated nitric acid. On gentle heating it loses water and becomes converted into iodine pentoxide, which breaks up on further heating into its elements. I. A. is acid to litmus, forming salts, the iodates, of which sodium iodate, occurring in caliche, is the principal. I. A. is a strong oxidising agent,

readily giving up its oxygen with the liberation of iodine.

Iodine (symbol I, atomic weight 127), a non-metallic element which belongs to the halogen group (*q.v.*). It occurs as iodide in sea-water, from which it is collected by certain seaweeds, notably *Laminaria digitata* and *L. stenophylla* which contain as much as 0·5 per cent. It is also present in crude chili, saltpetre, or caliche as sodium iodate.

Extraction from sea-weed. — The weed is burnt in pits and the ash or *kelp* boiled up with water and the solutions concentrated. The less soluble salts separate on cooling, whilst the iodides remain in solution. The liquor is then distilled with

Extraction from caliche. — The mother liquors, from which the sodium nitrate has been separated as far as possible, are treated with a solution of sodium hydrogen sulphite which precipitates the I. as a black muddy substance which is purified by sublimation. When pure, I. is a greyish-black crystalline substance with a metallic lustre and a peculiar odour. It has a specific gravity of 5·0, and melts under pressure at 114° C. On heating it sublimes, giving rise to a purple vapour. It is only sparingly soluble in water, more freely in alcohol, and especially in potassium iodide solution forming brown solutions. In carbon disulphide and chloroform the solution is purple. With starch, I. forms an intense blue coloration, and by means of this test one part of I. in a million parts of water may be detected. Chemically, I. is the least active of the halogens, but nevertheless combines directly with many metals, phosphorus, etc., and also to a certain extent with hydrogen to form hydriodic acid. Medicinally, I. and its compounds are of great importance. Its solution in alcohol (tincture of I.) is used externally for subduing inflammation. The iodides of mercury, iron, and especially potassium are used to increase the activity of the absorbent generally, and in certain chronic rheumatism, in s affections, mercury and lead poisoning, etc. Compounds of I., such as iodoform (*q.v.*) and allied substances, are largely used as antiseptics; silver iodide in the making of photographic plates; and large quantities of I. and its compounds are used in technical chemistry.

Iodoform, or Tri- (CHI$_3$), a pale yellow stance melting at 119° a peculiar smell. It is best prepared by adding slight excess of a dilute solution of sodium hypochlorite, to a solution of 50 parts potassium iodide, 6 parts acetone, and 2 parts sodium hydroxide dissolved in 1500 parts water. I. is slightly soluble in water, and has strong antiseptic properties, being largely used in medicine for this reason. It differs from chloroform (*q.v.*) only in having iodine in place of chlorine, and in the form of vapour acts as an anæsthetic.

Iodole, or Tetriodopyrrol (C_4I_4NH), a yellow crystalline substance melting at 140° C., which is used as an antiseptic in place of iodoform. It is equally effective, but devoid of odour.

Iola, a city of Kansas, U.S.A., co. seat of Allen co. on the R. Neosho, 80 m. S.E. of Topeka. The river furnishes considerable water power, and the town possesses an artesian medicinal mineral well. Manufs. include cement, bricks, and sulphuric acid, and there are machine shops, carriage works, and zinc rolling mills. Pop. (1910) 9032.

Iolaus, in Greek mythology, the half-brother and charioteer of Hercules, with whom he was worshipped as a hero at Thebes. He aided Hercules to destroy the Lernæan hydra, and helped Hercules' children in their contest with Eurystheus when the latter made war on them.

Iolite, *see* CORDIERITE.

Ion: 1. The legendary ancestor of the Ionian branch of the Greek race, brought up in Apollo's temple at Delphi. Euripides takes the story as the theme of one of his tragedies. 2. A Greek poet of Chios, living in the age of Pericles, and one of the lesser of Attic tragedians. He flourished at Athens between 450 and 422 B.C. His first tragedy was produced between 452 and 449 B.C., and l both the rizes. He is of a philosophical treatise on the mystic number three, and is credited with various epigrams, pæans, elegies, encomia, and comedies. He also wrote five historical or biographical account of the *See* F. Allègre,

Iona, or Icolmkill, one of the islands of the Inner Hebrides, Argyllshire, Scotland, separated from Mull by the Sound of I. It is about 3½ m. long, and 1½ m. broad, and covers a total area of about 2000 acres, 600 of which are under cultivation, oats, potatoes, and barley e chief crops. The coast is on the E., but rocky on The inhabitants support

themselves on agriculture and fishing. I. is celebrated in history from its connection with Saint Columba, who lived there about 565. Its ancient ruins are of interest, the most noted being St. Oran's Chapel, attached to which is a burying-ground containing the tombs of Scottish kings before Malcolm Canmore, and four Irish and eight Norwegian kings. There are also fine ruins of the Cathedral Church of St. Mary. In 1905 the cathedral was restored and opened for public service. Pop. about 213.

Ione, the name of a genus of isopod crustaceans belonging to the family Bopyridæ; the species are parasitic on the bodies of decapod crustaceans, and are characterised by long, branched thoracic feet.

Ionia, a city of Michigan, United States, and the cap. of Ionia co. It is situated on the Grand R., 34 m. E. of Grand Rapids. Manufs. include *furniture, wagons, rattan goods*, petrol engines, and pottery. Pop. (1910) 5030.

from the Peloponnesus, and derived its name from the Ionians, one of the ancient tribes of Greece. The country was very flourishing, and out of it arose twelve great cities: Miletus, Myus, Priene, Ephesus, Colophon, Lebedus, Teos, Erythræ, Clazomenæ and Phocœa, together with Samos and Chios, which formed a league more of a sacred than political character. It held a periodic festival in the shrine of Panionium on Mt. Mycale near Priene, when religious worship was observed and games celebrated. Each city was independent and democratic, but united with the rest of the cities of I. by common interests and religious worship. Subsequently Smyrna was admitted to the league. The cities gradually fell under the sway of Lydia, but about 550 B.C. became subject to Persia, against which they rose in insurrection about 500 B.C. They were defeated off Lade (498), and near Ephesus (496). During the Persian invasion of Greece, they were forced into service by their conquerors, but deserted to the Greeks at the battle of Mycale (479). They then became the independent allies of Greece, but in 387 with other Greek cities became subject to Persia. They maintained a good deal of independence, however, but were finally subdued by Alexander the Great after the fall of Miletus (334). I. was included in the Roman empire after 64 B.C. It was later invaded by Turks and became part of the Turkish empire.

Ionian Islands, a chain of islands extending along the western and southern coasts of Greece, and comprising Cephalonia, Corfu, Cythera (Cerigo), Ithaca, Paxo, Santa Maura, and Zante, with some thirty dependencies. Total area 1100 sq. m. All the islands except Corcyra were included in the later Roman empire; Corfu and Cephalonia were captured by Robert Guiscard (1081); in 1401 Corfu fell into the hands of the Venetians who extended their sway over the islands, but finally ceded them to France (1797). After coming under the influence of Russia and Turkey they accepted British protectorate (1809-15), who continued to have influence over them until 1864 when they were annexed to Greece under King George. Pop. 260,000.

Ionian School of Philosophy, which flourished during the 6th and 5th centuries B.C., was chiefly interested in the primordial constitutive principle of the universe. The first of them was Thales, his chief successors being Anaximander, Anaximenes. The earlier philosophers sought to explain the material universe in terms of matter and force, finding material substance in everything that exists. About the time of Heraclitus a new thought sprang up. Anaxagoras asserted that everything existed from the beginning in an infinite number of infinitesimal atoms which were the seeds of all things which have since been produced. Diogenes of Apollonia elaborated on the universal homogeneity of nature, the universal substance of all things being air. The later Ionians, Archelaus and Hippo, reverted to the earlier thought of Thales.

Ionian Sea, in the Mediterranean, lies S. of the Adriatic and divides Italy from Greece.

Ionic Dialect, was one of the four varieties of Greek language. It was principally spoken in the Ionian colonies of Asia Minor, but was not uncommon in some of the islands of the Ægean Sea. Out of the Old Ionic arose the language of epic poetry. Herodotus distinguished four varieties of the New Ionic, in one of which he wrote. The I. D. is not very different from Attic, but has a richer vowel-system which gives it a certain softness of sound

Ionic Order of Architecture, *see* ARCHITECTURE—*Greece*.

Ionidium, a genus of violaceous plants, inhabits tropical and subtropical countries, especially America. Several species are used medicinally on account of their emetic roots; the chief of these is *I. Ipecacuanha*,

known as the white Ipecacuanha to distinguish it from the true Ipecacuanha of Brazil.

Ionone ($C_{13}H_{20}O$), a ketone of the terpene series. It has a fine odour of violets, and is made for the production of the artificial perfume.

Ions, *see* ELECTRICITY—*Electrolysis*, and ELECTROLYSIS.

Ios, one of the Cyclades islands of Greece, with a fine port. According to tradition Homer was buried here. Pop. 2000.

I.O.U., is, without additional words an acknowledgment of debt. It differs from a promissory note in that it requires no stamp; and it need not be addressed to the creditor by name. Far from being a negotiable instrument like a bill of exchange or promissory note, an I.O.U. is merely evidence of an account stated between the parties to it; but it is not evidence of money lent by the person who signs it.

Iowa, the north-central state of the U.S.A., popularly known as the 'Hawkeye State,' covering an area of 56,025 sq. m., 55,475 being land surface. Bounded on the N. by Minnesota; on the S. by Missouri; on the E. by Wisconsin and Illinois; and on the W. by Nebraska and S. Dakota. The surface is undulating, nearly four-fifths comprising rich prairies, forming good pasturage. The soil is generally fertile, the chief crops being Indian corn, wheat, barley, oats, potatoes, fruits, etc. In the E. portion of the state minerals abound, including coal, lead, zinc, iron, limestone, gypsum, and clay. The chief industries are dairy produce, and those connected with the agricultural and live-stock resources of the state; flour-milling, pork-packing and the manufacture of farm implements. The climate is one of great extremes of heat and cold, with generally a dry winter and wet summer. The settlement of Iowa dates from 1832, and it was admitted into the Union in 1846. It is divided into ninety-nine counties, and the capital is Des Moines. Pop. (1910) 2,224,771. *See* W. Salter, *Iowa the First Free State in the Louisiana Purchase*, 1905.

Iowa City, the cap. of Johnson co., Iowa, U.S.A., on the Iowa R., 23 m. of the Cedar Rapids. It is the seat of the Iowa State University founded in 1860, which has various departments and accommodates about 1500 students. It has foundries and machine shops, and the industries include flour-milling and meat-packing. Pop. (1910) 10,091.

Iowa River, rises in Hancock co. in the state of Iowa, and flows in a south-easterly direction, entering the Mississippi in Louisa co. It is navigable to Iowa city and is about 350 m. in length.

Ipecacuanha, an emetic substance obtained from the roots of several S. American plants. The true I. is a species of Rubiaceæ known by the various generic names of *Cephaëlis*, *Psychotria* and *Uragoga*, and occurs in damp forests of Brazil. It is a small herbaceous plant with a prostrate stem and an annulated root. In medicine it acts as an emetic and stomachic, aids respiration and increases perspiration. The white I. is a violaceous plant, known botanically as *Ionidium Ipecacuanha*; the bastard I. is a species of Asclepiadaceæ bearing the name *Asclepias curassavica*.

Ipek (Pekia, Peč, or Petch), a prov. and tn. of former European Turkey, vilayet of Kossovo, 73 m. from Scutari, on the White Drin, or Bistrica (Bitritsa). It has a noted monastery, residence of the Servian patriarchs up to 1690. Fruits (especially mulberries) and tobacco abound in the neighbourhood, and the silk industry thrives. Pop. about 15,000 (mainly Mohammedan Slavs). *See* Durham, *Through the Lands of the Serb*, 1904.

Iphicles: 1. A son of Amphitryon and Alcmere, and a twin brother of Hercules. While the two babies were in a cradle, Juno sent two serpents to kill Hercules, who squeezed them to death in his hands. 2. Was a son of Phylacus, and Clymene, whose cattle were famous for their size.

Iphicrates (c. 420-348 B.C.), a celebrated Athenian general, the son of a shoemaker. He changed the dress and arms of the Athenian soldiers, and introduced the *pellastæ* (οἱ πελτασταί), or targeteers. These light troops were originally composed of Thracian mercenaries; I. trained them and made them into a thoroughly efficient force. They were armed with small light shields (πέλται), and strong linen corslets in place of the heavy shields and coats of mail. He also provided them with longer swords and spears. He fought in the Corinthian War, and defeated the Spartans in 392. He helped Seuthes, king of Thracian Odrysæ in his campaigns, and in 378 joined the Persian forces in Egypt. After 371 he assisted his father-in law, Cotys, king of Thrace, in war against Athens, but was subsequently pardoned, and took joint command of the Social War.

Iphigenia, according to Greek tradition, the daughter of Agamemnon and Clyte[illegible] provoked [illegible] by killing [illegible] the Greeks were going to the Trojan War Artemis produced a calm, so

that the fleet in Aulis was detained from sailing. The soothsayer Calchas advised Agamemnon to sacrifice I. in order to appease the goddess, and Agamemnon ultimately consented. According to one legend she died on the altar; but according to another Artemis put a hart or a goat in her place at the last moment, and carried her off to Tauris. There I. became priestess in the temple of Artemis, and saved her brother Orestes with his friend Pylades, from being sacrificed to the goddess by fleeing with them to Greece, carrying away the statue of Artemis from the temple. I. was worshipped in Athens and in Sparta, and it is probable that she was really the goddess under another name.

Ipomæa, a genus of Convolvulaceæ, consists of about 400 species of herbaceous and shrubby plants growing wild in warm and tropical countries; many are cultivated in milder climates for their showy flowers. *I. Batatas* is the sweet potato; *I. purpurea*, the morning-glory; *I. purga*, the jalap; *I. pandurata*, the wild potato-vine.

Ipsambul, or Abu Simbel, ruins in Nubia, Upper Egypt, on the R. Nile. There are two rock temples which were built by Rameses the Great, in the sides of steep cliffs. They contain numerous statues and sculptures.

Ipsus, in ancient geography, was a tn. of Asia Minor, in Phrygia, where, in 301 B.C., Antigonus was defeated and killed.

Ipswich: 1. A municipal, co., and parl. bor., and the co. tn. of Suffolk, England, at the head of the Orwell estuary, 69 m. N.E. of London. The older part of the town with its narrow irregular streets is very picturesque, and contains a few interesting antiquarian remains, Sparrowe's House (1567), Archdeacon's Place (1471), and Wolsey's Gateway (1528). There are some fine churches, mostly Perpendicular in style, including St. Margaret's and St. Mary-at-Quay, both with beautiful oak Tudor roofs, St. Nicholas', and St. Peter's in Decorated style with a Norman font in marble. There is a beautiful arboretum, which is open to the public, and part of Christchurch Park is owned by the corporation. The industries include large engineering and agricultural implement works, arti- shoe neries, 19 ft. In 991 acked by the Vikings, but in 1200 it had risen to sufficient importance to receive a charter. Wolsey was born here in 1471. The town returns two members to parliament, and is a suffragan bishopric. Area, 8112 acres. Pop. (1911) 73,939. 2. A tn. of Stanley co., Queensland, Australia, on the R. Bremer, 23½ m. W. of Brisbane. It is the centre of a rich agricultural and coal-mining dist., and has manufs. of woollen goods, and foundries. Pop. (1911) 10,000. 3. A tn. of Essex co. Massachusetts, U.S.A., 27 m. N.N.E. of Boston. It has manufs. of hosiery, textiles, soap, flour, and lumber. The town was founded, under the name of Aggewam, in 1633, and is of considerable historical interest. Pop. (1910) 5777.

Iquique, a city and seaport of Chile, in the prov. of Tarapaca, 820 m. N. of Valparaiso, on the Pacific coast. It is a city of considerable commercial importance, chiefly owing its prosperity to the export of nitrate of soda and borax, obtained from the desert region of the province. Until 1830, when the export of nitrate began, I. was only a small fishing-village of little importance. It is now connected by rail with the inland town of Tarapaca and various mining centres. It is well provided with banks, tramways, electric light, telephones, schools, clubs, newspapers, etc., and has steamship and cable communication with the outside world. Twice, in 1868 and 1877, the town was nearly destroyed by an earthquake and tidal wave, and in the war between Chile and Peru, it was ceded to the former by treaty in 1883. Pop. about 42,500.

Iquitos, a tn. of Peru, in the dept. of Loreto, situated on the Marañon. It is the headquarters of the Peruvian navy, and the cap. of the prov. of Bajo Amazonas. Pop. 15,000.

Iquitos, a tribe of S. American aborigines, in the region between Peru, and Ecuador, on the N. part of the Upper Amazon. They are naked savages, and use poisoned arrows; their language is unknown. Attempts were made to civilise them as early as 1727, but most of them relapsed into their barbarous habits.

Irak-Ajemi, a central prov. of Persia, almost corresponding to the ancient Media. Its surface consists very largely of elevated table-lands, but there are numerous fertile valleys contains the principal towns of Persia, including Teheran, the capital, and Ispahan. The industries consist in the weaving of carpets, most of which are exported to Europe, and the manuf. of glass and porcelain.

Area, 138,190 sq. m. Pop. (estimated) 3,000,000.

Irak-Arabi, the most south-easterly dist. of Turkey in Asia, almost coincident with ancient Babylonia (*q.v.*), lying between the lower courses of the Tigris and Euphrates. The district includes the ruins of Babylon, Seleucia, and Ctesiphon, as well as the modern towns of Bagdad, Basra, and Meshed Ali. The exports are valued at £2,000,000 per annum, and include dates, grain, millet seed, rice, and wool. Pop. (estimated) 2,000,000.

Iran, or **Eran**, originally the name of the great plateau, bounded on the N. by the Caspian Sea and Turanian Desert, on the S. by the Persian Gulf, and Indian Ocean, on the E. by the Indus, and on the W. by Kurdistan and the Tigris. The name, which is now the official designation of the Persian kingdom, is derived from *Aryāna*, 'the country of the Aryans.' Strabo declared that the name and language extended to the Persians, Medes, Sogdians, and Bactrians, as well as to the inhabitants of the S.E. of I. *See* PERSIA.

Irapuato, a tn. of Mexico in the state of Guanajuato. It is an important railway junction, and is situated on the railway between Mexico and Guadalajara. Pop. 20,000.

Irawadi, or **Irrawaddy**, the chief riv. of Burma, is formed by the confluence of the two arms of the Malikha and Meh-kha, which rise in the N.E. of Assam, near the Tibetan frontier, a short distance above Bhamo. If follows generally a course from N. to S., a total distance of 1500 m., and falls into the Bay of Bengal, between the Bay of Martapan and Cape Negrais, through a wide delta with nearly a dozen mouths. The delta is a fertile rice-growing district, but only two of the mouths, the Bassein and the Rangoon, are navigable for big boats. The chief tributaries are the Chindwin and the Shweli, and the chief towns on its banks are Bassein, Rangoon, Prome, Ava, Mandalay, and Bhamo. The river is the great highway for commercial traffic, and drains an area of about 158,000 sq. m. of very fertile land.

Irbit, a tn. of E. Russia in the gov. of Perm, at the junction of the Irbit and Nitsa, 110 m. N.E. of Ekaterinburg. It is connected by steamboat lines with the principal towns of the Obi Valley, and has a large annual fair in February, considered the most important in Asiatic Russia, and attended by a number of European and Asiatic merchants. Pop. about 20,000.

Ireland, an island lying to the W. of Great Britain, with which it forms the United Kingdom of Great Britain and Ireland. It is separated from Great Britain on the E. by the North Channel (13½ m. wide) and the Irish Sea (130 m.), and on the S. by St. George's Channel (47 to 69 m.). It is encircled on the N., the W., and the S. by the Atlantic Ocean. In shape the island is an irregular rhomboid, the greatest diagonal, from N.E. to S.W., being 302 m. in length. The total area is 32,605 sq. m. I. is divided into four provinces and thirty-two counties. These, with their population in 1911, are as follows: *Ulster* (northern division): Counties Antrim (478,603), Armagh (119,625), Cavan (91,071), Donegal (168,420), Down (304,589), Fermanagh (61,811), Londonderry (140,621), Monaghan (71,395), and Tyrone (142,437). Total pop. 1,578,572. *Leinster* (E. midlands and S.E.): Counties Carlow (36,151), Dublin (476,909), Kildare (66,498), Kilkenny (74,821), King's (56,769), Longford (43,794), Louth (63,402), Meath (64,920), Queen's (54,362), Westmeath (59,812), Wexford (102,287), and Wicklow (60,603). Total pop. 1,160,328. *Connaught* (W. midlands): Counties Galway (181,686), Leitrim (63,557), Mayo (191,969), Roscommon (93,904), and Sligo (78,850). Total pop. 609,966. *Munster* (S.W. division): Counties Clare (104,064), Cork (391,190), Kerry (159,268), Limerick (142,846), Tipperary (151,951), and Waterford (83,766). Total pop. 1,033,085. Total pop. of I. 4,381,951.

Physical geography.—There are no dominating mountain ranges in I., but there are detached groups of mountains, generally reaching from the coast inland. The highest elevation is some 3000 ft., while the average height of the island is about 400 ft. The chief ranges are the Mournes in co. Down, with its highest peak Slieve Donard (2796 ft.); the Wicklow Mts. (Lugnaquilla, 3039 ft.); the Derryveagh Mts. in the N.W. (Errigal, 2466 ft.); the Sperrins in the N. (Sawel, 2240 ft.); the Macgillicuddy Reeks in Kerry (Carran Tual, 3414 ft.); the Galtees of Tipperary, and the Slieve Bloom; the Knockmealdown (2609 ft.) and Comeragh Mts. (2470 ft.) in Waterford; and the Twelve Pins of Connemara (2695 ft.), and the low groups of Sligo and Galway. The central part of I. consists of a wide plain, about 250 ft. in elevation, in which are many morasses. The largest of these is the Bog of Allen in Leinster. They are not unhealthy, and produce large quantities of peat, which is used by the inhabitants for fuel. The lakes of I. (called loughs) form an important feature of its geography. Those lying in the

centre are Loughs Derravaragh, Ennell, and Owel; the R. Shannon flows through the Allen, Ree, and Derg; Neagh, the largest (100,000 acres), and Erne are in Ulster; to the N.W. lie Loughs Melvin, Gill, Gara, and Conn; and between counties Mayo and Galway, the great Loughs Masks and Corrib. The Lakes of Killarney in Munster are renowned for their beautiful setting.

I. is watered by many rivers. The chief is the Shannon, the largest river in the United Kingdom. It rises in co. Cavan and flows in a south-westerly direction into the Atlantic Ocean. The rivers flowing to the W. are for the most part short and rapid and of little use for navigation; the only other important one is the Erne, which empties itself into Donegal Bay. Along the E. coast the principal rivers are the Slaney, flowing from the Wicklow Mts. into Wexford harbour; the Ovoca; the Liffey, rising in Wicklow and flowing northwards to Dublin Bay; the Boyne, draining the central plain, and passing through co. Meath into Drogheda Bay; and the Lagan, rising in co. Down and discharging into Belfast Lough. The rivers of the N. are the Bann and the Foyle, the former draining Lough Neagh and the latter emptying itself and the waters of its many small tributaries into Lough Foyle. The south-eastern district is watered by the Nore, Barrow, and Suir, which unite in Waterford harbour. Other important rivers of the S. coast are the Blackwater, rising in Kerry and flowing in an easterly direction to Cappoquin, where it suddenly turns S. into Youghal harbour; the Lee, flowing through Cork into Cork harbour; and the Bandon, which empties itself into Kinsale harbour.

The coast-line of the N., W., and S. is very much broken up with inlets, loughs, and rivers. The northern coast of Antrim and Londonderry consists of sheer cliffs, with many great regular columns of basaltic formation, known as the famous Giant's Causeway. The chief inlets of the N. are Lo
bays c
Malin
point,
coast
islands
Is. and Aran Is. Mountains border close upon the sea down to the western coast, giving a rugged and wild appearance. The largest inlets of the W. are Clew Bay, Killary harbour, Kilkieran Bay, Galway Bay, the mouth of the Shannon, Dingle Bay, and the mouth of Kenmare R. and Bantry Bay. From N. to S. are the islands of Inishkeas, Achill, Aran, and Valentia. The S. coast, not so much fretted as the N. and W., contains the fine harbours of Cork and Waterford. The eastern coast is still more uniform in character, but is broken by Wexford harbour, Dublin Bay, Dundalk Bay, Carlingford Lough, Dundrum Bay, Strangford Lough, and Belfast Lough. To the N. lies Rathlin Is. in the North Channel.

Climate.—The climate of I. resembles that of Great Britain, but is more equable. It is influenced by the Gulf Stream and by the S.W. winds. The prevailing winds cause a greater amount of rainfall, and the rain is more evenly distributed over I. than over Great Britain. In the latter country the mountains in the W. present a barrier to the S.W. winds; but I. has no mountain ridge lying N. and S., which fact accounts for the greater rainfall. The constant rain promotes luxuriant vegetation, which has given I. its name of 'Emerald Isle.' The mean temperature in January is seldom below 40°, while in July the extreme mean temperatures are 58° in the N. and 60° inland.

Agriculture.—The soil of I. is rich and eminently suited to tillage, but the political history of the country has largely
being as fic
been. The
allotted has been inordinately large and the size of each extremely small. Moreover, the excessive moisture of the atmosphere in the southern and western region is detrimental to the cultivation of cereal crops. In 1899 a department of agriculture was established, whose duties include the provision of agricultural instruction, as well as administrative work with regard to the improvement of live stock. Much of the land formerly used for tillage has been withdrawn gradually during the last half century for pasturage. The cause has been attributed largely to the emigration of the poorer classes, resulting in a dearth of labour. The chief green crops grown are potatoes, turnips, carrots, mangel-wurzel, beet, cabbage, etc.; the cereal crops include barley, oats, and wheat; and flax is grown in large quantities in Ulster. With the increase of pasturage, there has, of course, been a much larger return of live stock with a smaller output of agricultural produce. Horses, cattle, sheep, and swine are bred with great success, and during recent years there has been a marked improvement in the purity of the breeds raised. The fisheries form an important industry of the Irish people. The country is divided into thirty-one

deep-sea and coast fisheries, and in 1905 over 6000 vessels were employed in the trade. Mackerel, hake, herrings, soles, cod, lobsters, and oysters are among the fish caught and sold. There is, too, a good deal of rod and line-fishing in the rivers, and salmon and trout are caught in large quantities.

About twenty-one species of mammals that occur in Great Britain are unknown in I. The mole, weasel, adder, and pole-cat are unknown, and the only kind of reptile found is the lizard. The blue-hair is indigenous, and frogs and toads are very common. It is probable that I. was isolated before the complete European fauna was able to enter it from the E. The flora of the southern region includes some Pyrenean types that are not found in Great Britain.

The mineral produce of I. is small when compared with that of Great Britain. Coal is mined near Lough Allen and at Coalisland in co. Tyrone. Black marble is quarried in counties Galway and Kilkenny, and red marble near Cork. Salt is made, being raised from the Triassic beds near Carrickfergus, and barytes, pyrites, and lead ore are also produced. Other minerals are limestone, which is chiefly found in co. Roscommon, iron ore, sand, clay, bauxite, and green Connemara marble. The total value of the mineral produce raised in I. in 1908 was £217,056, the total value in the United Kingdom being £130,003,670.

Manufactures flourish chiefly in the N.E. of Ulster. The most important seat of the linen industry is Belfast, where it was introduced by Strafford in 1633. That town also employs over 10,000 men in its shipbuilding yards. The woollen industry, which was formerly in a very flourishing condition, has been hindered by restrictions imposed by the British parliament. Other industries are brewing and distilling, embroidering, hand-lace work, and other home industries. The chief exports are all kinds of agricultural produce, live stock, fish, and linen.

Means of communication.—The first railway was opened in 1834, and ran between Dublin and Kingstown, a distance of 6 m. In 1910 the number of miles open and in operation was 3400. The chief railway companies are the Midland, Great Western, Great Southern and Western, Great Northern, Belfast and Northern Counties, and the Dublin, Wicklow, and Wexford. The canals are very important for purposes. The chief are and Royal canals, 165 long respectively, which munication between Dublin and the Shannon; and the Ulster Canal which connects Lough Neagh with the Shannon. There are steamship lines between Dublin (Kingstown) and Holyhead (Anglesey); Belfast and

The coasting trade is very active.

Education.—The primary education is under the direction of the commissioners of national education. In 1909 there were 8401 primary schools, in which 679,235 children were enrolled. The amount expended from the rates during the year 1909-10 was £1,688,649. The primary schools were opened in 1831. Religious instruction is not compulsory. In the same year there were seven training schools with 1194 students. A Board of Intermediate Education controls the curriculum of secondary schools; it awards grants out of a fund set apart in 1878 out of the former endowment of the Irish established church. The University of Dublin (Trinity College) was incorporated in 1591, and is the most important in I. It has now opened its degrees to women. The other universities are: Queen's at Belfast; the National University of I. at Dublin; the (Roman) Catholic University of I. at Dublin; the universities of Cork and Galway; the General Assembly's College, Belfast, and Magee College, Londonderry (both Presbyterian); and the Roman Catholic colleges at Maynooth, Blackrock, Clonliffe, Carlow, etc.

History.—The earliest history of I. is not unnaturally wrapped up in myth and legend. We have little evidence in any authors of note regarding I., and other evidences which contribute greatly to the history of other nations are lacking in the case of this country. Hence we are compelled to rely upon the little evidence upon evidence of the Neolithic peoples is to be found, and we find that even after the Celtic settlement of I. great numbers of the earlier inhabitants survived, and intermarriage between the Celtic and pre-Celtic tribes took place to an even greater extent than was customary in other lands settled by Celtic tribes. The first Celtic settlement of Goidels took place during the 6th century B.C., and about three centuries later we

tribes. These names bear a striking resemblance to the tribal names of the Celts in Britain, *e.g.* we find the name Brigantes in both countries. The division of the country into provinces—Ulster, Munster (E. and W.), Leinster, and Connaught—seems to have been a division made by the earliest Celtic settlers. By the beginning of the Christian era we may say that I. was populated by Celts (Goidels and Brythones), together with a sprinkling of the Neolithic people and some Picts, who probably came from Scotland, and who occupied but a small portion of I. Such is the explanation that history gives of the early settlement of I., the Irish, however, account for it in a very different way—a series of legendary stories, in which mythical characters, who have become almost historical, play an important part. The legendary stories which account for the settlement of I. are various, and can only be noticed here. The first invaders came under Partolan, occupied the island for 300 years, and were then killed off by a great plague. They were followed by the Nemedians, who came from Scythia and had a great struggle with the Fomorians. The Fomorians were ultimately successful and the Nemedians were driven out and went away to Greece. From hence, after various adventures they returned to I., this time being given the name of Firbolgs, and this tribe settled in I. and have been held to be represented down to the 16th century in I. itself. The next set of invaders were the tribes of the God Danu, who finally overthrew both the Firbolgs and the Fomorians. The tribes of the God Danu are supposed to have come originally from Greece but to have been driven up to Scandinavia, and from thence to have invaded I.; they held supreme command of I. down to the time of the arrival of the Milesians. The Milesians are supposed to have come originally from Scythia, to have sojourned in Egypt, and to have finally invaded I. and conquered it. This myth is the most important, historically, of all that have been related, since the Milesians are held by historians down to the 16th century to have given the line of the high kings to I. down to the 12th century. Names are given to the early kings and records of their deeds were kept, but of these we may take little or no notice until the appearance at the end of the 4th and beginning of the 5th centuries of Niall of the Nine Hostages. He is held to have finally set up the central kingdom of Tara, and to have led expeditions of the Irish overseas. It has not yet been fully recognised to what an extent I. and Wales were connected during this early period, and it must be pointed out here that the expeditions of Niall of the Nine Hostages, synchronises with the departure of the Romans and the raids of the Picts and Scots into Britain. Certain it is that colonies of the Irish were formed in Wales and in W. Wales (Devon and Cornwall), and it is to this period in Irish history that we can best trace the foundation of these colonies.

The religion of early I. cannot be easily traced. The early inhabitants appear to have had many gods, in fact, to a certain degree, to have been Pantheistic; there is evidence also to show that they were fire worshippers, and we know that right up to the 15th century the sacred fire at Kildare was kept burning. The most tangible side of the early Irish belief, however, is their undoubted faith in the existence of fairies. The tribes of the God Danu are held, after the invasion by the Milesians, to have disappeared into the hills and to have reappeared as fairies. We have also lists of the names of the Irish gods, but these gods seem to have been very shadowy beings concerning whom little is known. The priests or Druids of the country play an important part as teachers, prophets, and wizards. Their powers were great, and they were held to have been able to perform many miraculous things. One side of the belief of the Irish must not be overlooked here, since it survives for some very considerable time during the Christian period, and that is the idea that after death certain changes could be made by the dead person, and that he could appear now as a wolf, now as a fish, and again as a bird. Only certain people were held to have this power, but in one case at least it was held that the whole of the inhabitants of Ossory could change themselves into wolves at will. Before the arrival of St. Patrick (432) I. had probably been partially converted to Christianity. Of this there seems little doubt, nor do actual facts in any way contradict it. The relations between I. and Britain were very intimate. A British Christian church had certainly been founded long before this date, and the constant influx of British slaves and the continuous intercourse of the Irish and Britons make it certain that Christianity was introduced. But the Church was in no sense an organised one, nor did it become organised before the arrival of Patrick. The growth of Pelagianism in Britain had, before the end of the 5th century, made it necessary for Rome to send

missionaries to stamp out the heresy, and one of these missionaries, Palladius, was certainly sent to I. Christianity, however, whilst probably well known in the S., had made little progress in the N. and W., hence it was to these parts that Patr[illegible] gave his own personal attention. himself, born in Britain, had b[een] enslaved and had spent seven years of early manhood amongst the Irish, hence he was familiar with their language and customs (*see* PATRICK, ST.). He took with him at least two followers who spent their time in the S., organising the churches and spreading the Gospel. Patrick took for himself those parts which had been touched but little by the Christian faith. His success was great, but has probably been overrated; in any case he found great opposition, and he incorporated in the faith numberless practices which did not actually run counter to the doctrines of Christianity, and which had been accepted by the Irish in pre-Christian days. The system of society made it essential that he should convert the heads of the tribes before the faith was accepted by the tribes-people, and he was opposed by the 'ardri' (or 'ardrig') of I. Nevertheless he succeeded in establishing a system by which native Irishmen became priests and in turn converted their brethren. Schools and churches were erected, and the see of Armagh established. I. in this way became definitely connected with the Western Church, bishops were consecrated, the land divided into dioceses which probably coincided with tribal divisions, and the Church definitely established throughout the land. The Church was, however, to adopt a very different system to that set up by Patrick, during the centuries which followed. The Irish Church has to a very great extent been regarded as a monastic church, but this was certainly not the system set up by St. Patrick. The Church in I. for a time suffered a serious set back after the death of Patrick, but finally was established upon a basis which co-ordinated with that of the political system of the country. The Church was founded in practically a personal basis, religious colonies originating from one centre became and remained daughter settlements of the parent body. The head of a religious foundation was the possessor both of spiritual and temporal rights, and frequently it came to pass that the headship of a religious foundation passed entirely into lay hands.

The monastic system was early introduced into I. although it was not until Christianity had gained a firm hold on the country that the monastic system usually associated with I. was introduced. The earlier type seems to have been very loose, and to have led to considerable disorder. Further, the Irish bishops did [illegible] that the number of Irish bishops in existence was enormous. Each tuath, or tribe, however, had a bishop who was recognised as an official member of the tribe, and who had a considerable amount of influence and power. Judged by the standards of Western Europe the Church in I. was morally somewhat loose, but this was probably as much due to the struggle between the old and new religions as to anything else. Findian was the founder of the famous monastery at Clonard. He had been in Britain, and there he had come under the influence of St. David and Gildas. Returning to I. in 520 he founded the monastery at Clonard which was the beginning of the foundation of that series of monasteries which made I. the centre of learning for Western Europe. Scholars flocked to these monasteries, which were simply encampments of students, *i.e.* a series of mud huts built by the students themselves. Here they lived and provided themselves with food by their own labour, and received also their learning in the open air. These monastic settlements were conducted on lines very much more severe than had been the earlier monastic settlements. The monks were shut off entirely from the laity, and the sexes were also separated. This monastic movement seems also to have been accompanied by a great missionary movement. Missionaries of the Celtic Church went everywhere —Columba to Iona, Aidan to Northumbria, Colombanus to Western Europe. In the Orkneys the Celtic Church was established, and Iceland, when discovered by the Vikings, was found to have been visited previously by missionaries of the Celtic Church. The Irish missionaries soon found themselves in opposition to the missionaries of Rome. The chief points of difference were the method of tonsure and the method of the calculation of Easter. The Roman tonsure had probably been introduced into I. by St. Patrick, but the Irish had certainly [illegible] tonsure, [illegible] calculating; [illegible] mained true to the Jewish method, since they had probably heard of no other. On this latter point they remained very stubborn, so much so that it was not until the beginning of the 8th century that the church of

Iona gave in on the point. From the 4th to the 8th centuries the political history of I. is a long story of relentless and practically uninterrupted tribal warfare. The descendants of Niall of the Nine Hostages remained ardri of I. down to the beginning of the 11th century, but were seldom powerful enough to be able to maintain peace in the country. The Church was not strong enough to perform the work of the ardri, and moreover, the personal character of church government made the Church often a party to the quarrels of the tribes. The descendants of Niall of the Nine Hostages, were divided into two great branches, the southern Hy Niall and the northern Hy Niall. At the begin
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made their settlement in
and ultimately, after
struggles, obtained the
more or less united Sc
SCOTLAND—*Hist.*). Abou
of the same century Tar
be the residence of the ardri, many legends being connected with the desertion of this centre. It is impossible to give here an account of any chief events in Irish history since there are none to give. The records tell us only of constant wars, constant successions, and short reigns. The country was in a state of anarchy. One event alone need be mentioned, and that the attempt to rule Dalriada (Argyllshire) as a subject kingdom of the ardri of I., this attempt, however, was given up. The position of the ardri was unenviable. He could command no real allegiance save that of his own immediate tribe. The army of I. consisted of the tribes commanded by their own chiefs. The tribesmen owed allegiance to their chief only.
to the ardri
shadowy t
nothing. Further, the tribal army was a fighting machine upon which no reliance could be laid, since it existed only for a short time, was unprepared for a long campaign, and was apt to melt away after having fought one sharp short battle. Such was the state of I. when the Vikings began a series of raids which developed into a settlement.

The first invasion of the Norsemen occurred towards the end of the 8th century. The Norwegians were the first to come, and, as in England, the first attacks were mere plundering raids, during which, however, the Vikings did not confine themselves to attacks on the coast, but by sailing up the rivers penetrated inland also. The raids, however, quickly developed into settlements, and the Norwegians, aided later by the Danes, made settlements on the E. coast. Although the Danes and the Norwegians later quarrelled amongst themselves, nevertheless the Irish tribal system prevented the organisation of any effective resistance. For over a century I. was dominated by Dubgaill (*i.e.* the black foreigners, the Danes), and the Twdgaill (the white foreigners, the Norwegians). This domination was not altogether evil for I., since it brought that country into closer contact with the countries of the Continent and with Western civilisation. Many of the Irish tribes fought in the armies of the Danes who invaded England. Foreign trade, especially with Scandinavia, flourished, and
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with the reigning dynasty Brian managed in 1002 to become ardri himself, and during the twelve remaining years of his life he ruled a peaceful and prosperous I. He strengthened justice, he made good laws, and he built schools. But he had still to face the hostility of the Danes and the jealousies of the Irish chieftains. In 1014 was fought the famous battle of Clontarf, which broke again the power of the Danes, but at the end of which Brian himself was killed. The death of Brian was a very serious blow to monarchy in I., and led to the weakening of the central power and the establishment of practical anarchy throughout the country. The history of I. from the battle of Clontarf to the Anglo-Norman invasion is the record of continual strife between the O'Brians of Munster, the O'Neills of Ulster, and the O'Connors of Connaught for the ardrishiip of Ireland. The relations with England during this period were not intimate, but were, nevertheless, usually fairly cordial. The question of the Church in Ireland was one which perplexed the English primates during the Norman period. The relations between the Irish Church and Rome were not intimate, although in the matter of Easter and the tonsure the Irish Church had conformed to the usages of Rome. Dublin was regarded as an English diocese under Canterbury, and with this stepping-stone the English primates had hoped to subdue the whole island. The synod of Kells of 1152 divided the island finally into dioceses, did much to abolish the anarchic state of church government which prevailed, and

made Armagh the seat of the primacy. The Irish had, between the 4th and 12th centuries, advanced but little as far as their social conditions were concerned. A species of feudalism had grown up, but the tribal system and the Brehon law remained still with them. They were, however, about to fall under the influence of the Norman feudal system. When Henry II. succeeded to the English throne he had already planned the conquest of I. The only English pope who ever occupied the chair of St. Peter had given his sanction to the idea, and had desired the conquest as a means of bringing the Irish Church into closer contact with Rome. The expedition planned by Henry, however, did not take place, but later in the reign events caused Henry to again turn his attention to the question of I. In 1166 Dermot Macmurragh, exiled from I. because of his tyranny, and also because of the hatred he had roused by carrying off the wife of the chieftain of Breffni, arrived in Aquitaine and asked for help from Henry II. Henry II. was at that time too much occupied with other affairs to attend to Irish matters himself, but he gave Dermot permission to raise forces from amongst his march lords, and by their aid won back his possessions in I. He applied to Richard de Clare, Earl of Pembroke (usually called Strongbow), and by promising him the hand of his daughter and the ultimate possession of his kingdom, induced that earl, whose fortunes were not at their highest level, to help him. Strongbow did not cross over to I. until 1170, but Fitz-Stephen and Fitz-Maurice crossed with a small company of men in 1169, and began the Anglo-Norman conquest of I.

It is impossible to follow here the failures of the first adventurers; suffice it to say that by their superior skill and their united efforts they restored Dermot and paved the way for the overlordship of Henry II., which that king established when he crossed over to I. in 1172. The kings of I. were forced to acknowledge Henry as their overlord, the country was placed under the administration of a Norman governor, the barons who had fought in I. were granted Irish lands, and the Church was brought by the synod of Cashel into complete union with the Church of Rome. The Irish were, however, allowed to retain their old Brehon law, and the Anglo-Normans were left to maintain themselves in their dominions as best they could. The history of I. for some time after this date is the record of continuous strife between the Norman barons attempting to extend their power and the Irish attempting to retain their customs, laws, and system of civilisation. The conquered territory was known as the Pale, and the whole of I. was ruled nominally by a Norman governor. John was made lord of I. in 1185, but soon made himself as hated in I. as he was later in England. The real rulers of the land were the De Lacys, who had been granted huge territories by Henry II., and who, by subinfeudating their land, introduced into I. those great Norman families who have played such an important part in the history of that country. During John's reign, however, English power increased as it did also during the reign of Henry III., especially under Richard Strongbow. The Norman families in the meantime began gradually that policy of intermarriage with the Irish which eventually made them 'more Irish than the Irish themselves.' The reign of Edward I. saw the power of the colonists still on the increase to such an extent that they were able to help Edward in his wars with Scotland, but although in Connaught and in Ulster the power of the English was still increasing, nevertheless the Celtic tribes were not yet utterly beaten, and remained in hiding and preparation in the mountains of I. During the reign of Edward II. Edward Bruce tried to conquer the island and to drive the English out, but after several futile victories he was finally overcome and slain at the battle of Dundalk. The reign of Edward III. witnessed the passing of the Statute of Kilkenny, which forbade the intermarriage of the English and the Irish; it also saw the creation of the earldoms of Desmond and Ormond, which were added to the earldom already created, the earldom of Kildare. Richard II. led two expeditions to I., with both of which he did little good; the Celtic reaction was strong and was strengthened by the Anglo-Irish baronage. One of the main results of Richard's second Irish expedition was that he allowed time for the house of Lancaster to usurp his throne. The period of Lancastrian rule was one of extreme misery for I. Henry IV. could do little, Henry V. was too busily occupied elsewhere to turn his attention to I., whilst Henry VI.'s regents did very little indeed. Richard of York was made governor of I. in 1449 for ten years. He ingratiated himself with all parties and became extremely popular. Edward IV.'s reign was remarkable for nothing save its lawlessness and for the fact that Tiptoft of Worcester, a typical product of the renaissance, became governor of the island and was responsible for much

bloodshed. The Earl of Kildare espoused the cause of Lambert Simnel in 1487, but certain of the Irish, and in particular the town of Waterford, were strong supporters of the Tudors. During the reign of Henry VII. was passed the famous Poyning's law, which gave control of the Irish legislature to the English council, and was responsible for much contention at a later date. Henry VIII. did not turn his attention to I. until fairly late in his reign. By this time the Anglo-Irish families were Irish in almost every respect. They no longer acknowledged any law save that of the tribal system of ancient I. But the king struck with a heavy hand, the power of the house of Kildare was broken, and the country was slowly rescued from the hands of the feudal lords. Henry himself adopted the title of King of I., and the Irish were gradually brought to look to the power of the crown for the redress of their grievances. The native

The reign of Edward VI. saw the beginning of the attempt to introduce Protestantism into I. The attempt was a f[illegible] s supported [illegible] The sincere[illegible]le was only too evident, and Mary had no difficulty in restoring the Catholic religion in I. at any rate; but the monastic lands which had been seized were not given back, and in fact Protestants from England found during Mary's short reign a place of refuge from persecution in Dublin. With the accession of Queen Elizabeth the state church was restored in I., and the Irish Church was made even more dependent upon the crown than was the Church in England, but the great events in Irish history during the reign of Queen Elizabeth are the O'Neill and later the Geraldine rebellions. Shane O'Neill had been elected chieftain by his tribe and claimed the earldom of Tyrone, which had passed to a bastard brother, Brian O'Neill. The English supported the claim of Brian O'Neill, but Shane was able to keep up a continual contest with the crown until finally, in 1567, he was killed.

The crushing of the Shane O'Neill rebellion was followed in I. by a great religious revival. The counter Reformation, which was doing so much to restore Catholicism on the Continent, worked with tremendous rapidity in I., influenced and helped to a very great extent by Jesuit priests. The immediate outcome of this religious revival was the outbreak of the Geraldine rebellions. The second of these rebellions, led by the great Earl Desmond, was only put down after four years continual struggle. The Irish were helped during this period (1579-83) by the Spaniards and the Italians, and were crushed finally with great cruelty. The rebellion had been confined practically to Munster, which was finally quelled by huge confiscations and English settlements; amongst the settlers were the poet Spenser and the adventurer Raleigh. The final rebellion during Queen Elizabeth's reign broke out in 1595 under O'Neill, Earl of Tyrone. Essex, sent to quell it, made terms with its leader and returned home; but Mountjoy, by means of a series of fortresses from which he ravaged and laid waste the land, finally conquered it (1603). Tyrone admitted defeat, and was allowed to keep his lands and title. The wars in I. had of a necessity been barbarous ones, both because the English regarded the Irish as savages and also because I. was struggling for all that England held in greatest hate — Catholicism and the friendship of *Spain*. The atrocities of the time, equally ferocious on both sides, cannot be palliated, but are perhaps more easily understood. The system of plantations was developed during the reign of James I. The lands of the Earls of Tyrone and Tyrconnel were confiscated, and Ulster was settled with Presbyterians chiefly, although lands were also granted to the city of London. I. seemed at this time to be the happy hunting-ground of all landless adventurers. But the conquest of the reign of Elizabeth had at least been thorough, and no further rebellions took place during the first Stuart reign. The administration of Strafford is the most important event of the early part of Charles I.'s reign. He promoted industry, law, and order; he restored the country to something approaching prosperity, but his order was the order of repression, his discipline the discipline of the iron hand. His worst and most unjust work was the attempts to 'settle' Connaught, but ere he could carry out that work he was recalled to help Charles in England (1640). The great Irish rebellion broke out in 1641, inspired both by hatred of the rule of Strafford and by the fear of what would happen under Puritan rule. It was known that the Puritan leaders were determined to repress Catholicism and the result was that immediately rebellion broke out. Even though the Elizabethan rebellions had been ferocious and savage, for mere savagery the great rebellion was worse. Undoubtedly thousands of Protestants perished,

although in a number of cases the figures have been grossly exaggerated. The situation was complicated by the outbreak of Civil War in England, and the Irish sent some help to the king, who was continually intriguing with them. In 1649 the execution of the king released the parliamentary troops for service in I., where the young king, Charles II., had been immediately recognised. The methods of Cromwell and Ireton were thorough, and the Irish were crushed altogether. The garrisons of Wexford and Drogheda were massacred, and every priest that the Puritans found was indiscriminately slaughtered. Cromwell may have been sincere in believing that he was exacting but a just vengeance; it must, however, be owned that his methods were unnecessarily barbaric. The Cromwellian settlement followed, and huge tracts of land were confiscated. The only merits of Cromwellian rule were the restoration of order and the prosperity which followed a peace of desolation. The Catholic religion was, however, sternly repressed. The Restoration involved the settling of another great land question. The Cromwellian settlement was to a great extent upset, the original owners were restored, and the Cromwellian settlers given compensation in Connaught. The Roman Catholic religion was also given a certain amount of toleration, and for the greater part of the reign Ormonde ruled I. for the English king. The country was on the whole peaceful, but the trade restrictions imposed were rapidly alienating the Irish people still further, and were the cause of considerable trouble at a later period.

The revolution of 1688 was the immediate sign for the outbreak of hostilities between the Catholics and Protestants of the north of I. Londonderry and Enniskillen were immediately besieged, and the Protestants found themselves hard set to hold their own. Londonderry was captured after a siege lasting 105 days, whilst the besieged in Enniskillen broke out and won a victory at Newtown Butler. In 1690 was fought the battle of the Boyne, after which James II. left the country and returned to France. William III. also returned to England, and the Irish rebellion was crushed by Churchill (Duke of Marlborough), assisted by Ginkell, one of William's Dutch generals. Cork and Kinsale fell. Aughrim was won, and finally Sarsfield, after a magnificent defence, surrendered Limerick, and returned to France with his followers to found the famous Irish brigades. The capitulation of Limerick had, in addition to allowing the Irish freedom to enlist in the service of France, also promised toleration for the Catholics to the degree allowed during the reign of Charles II. But the Penal Code passed by a Protestant parliament refused to recognise this latter clause. The Penal Code was a series of vindictive anti-Catholic laws. The Catholics were refused all rights of citizenship, all ownership of property, and were altogether treated in a manner which cannot be condoned in any way. Apart from this, the government of I. passed into the hands of a Protestant oligarchy. The great landowners were never in the country, and their representatives treated the Irish peasantry with the utmost cruelty, parliament was in the hands of the great Protestant families, and the Church under the control of absentee and usually irreligious bishops. The Irish people were downtrodden, their trade repressed, their land taken from them, thousands of them emigrated, and the pick of the Irish nation served the enemies of England, since England refused to use their services. The Irish had indeed become 'hewers of wood and drawers of water' to the Protestant minority. Towards the end of the century matters improved considerably. The Catholic repression was lightened, and several concessions in the matter of ownership of land were allowed them. These reforms were the immediate outcome of the American War of Independence. I. must be better treated, or there was the possibility of her also breaking away. The great result of this war, however, was the granting of an independent parliament. The British troops had perforce been withdrawn from I. for service in America; French invasion seemed imminent. The Irish Protestant and Catholic alike formed a volunteer force to resist invasion. Then gradually they discovered their own power; practically under the threat of rebellion they obtained the repeal of Poyning's law, after trade restrictions had been withdrawn (1782). The leader of the movement which had brought this about was Henry Grattan, a strong believer in Catholic emancipation, no democrat, but a believer in strong, firm rule. A patriot and a strong supporter of a close connection between the mother country and I. The next great movement which [illegible] was the Fre[illegible] Catholic and [illegible] as the greatest blessing of the age. The United Irishmen were formed. Fitz-William promised that which he could not fulfil—Catholic emancipation—and finally the state of I. became

anarchic. The United Irishmen were sternly repressed and disarmed. Ulster underwent a brutal persecution at the hands of an armed force, but was finally disarmed. In 1796 the French invasion under Hoche had failed at Bantry Bay. In 1798 the Irish rebellion broke out. To a great extent it was a national rising. The leaders held out for Catholic emancipation and parliamentary reform, the peasantry were fighting for separation from Great Britain. The battles of New Ross and Vinegar Hill were the only two battles of importance, and both were defeats for the rebels. The French landing was a failure, since it came too late, and Pitt saw that only union could end such anarchy. But union was distrusted and disliked. It was only at enormous expense and after much bribery by means of honours that it was brought about. Grattan spoke strongly against it, Grattan who had been ever a patriot and never a rebel. In 1800, however, the Act of Union was passed, and in 1801 it became law. The Irish were to be represented in parliament by twenty-eight Irish peers and four bishops, elected for life by the whole of the Irish peerage. One hundred members were to represent I. in the House of Commons. I. was to pay a certain amount to the British exchequer, was to be given absolute free trade with Great Britain, and was to keep her judicial and executive systems. Pitt intended the measure to be accompanied by a measure of Catholic emancipation, but the king (George III.) pleaded his coronation oath and refused to hear of it. Finally, rather than break a pledge, understood if not definitely given, Pitt resigned (1801). *See* continuation under GREAT BRITAIN.

Ireland, Church in, was founded, according to tradition, by St. Patrick, who has always been regarded as the patron saint of the country, in the 5th ce[illegible] cu[illegible] wl[illegible] Th[illegible] an[illegible] Irish Church was one of the most flourishing in Christendom. From it came Columba and many saints and anchorites to convert the larger eastern island. The Celtic Church was, however, separated by its position from the churches of the Continent, where the dominion of the great missionary and apostolic Roman see was already becoming very great. Though it was in full communion with the rest of the Church Catholic, it differed from the general Western custom in many points, such as the monastic tonsure and the date of Easter. After the Norman conquest of England, and the so-called conquest of Ireland which followed in Henry II.'s reign, a vigorous attempt was made to do away with the native Irish system, and bring the Irish into greater submission to the pope. But the distracted state of the country has never enabled it to produce any great churchmen. By the time of the Reformation the papal element was very strong in Ireland, and, moreover, the Irish were not very favourably disposed to the sister island. Hence the reformed doctrines were never well received among the Irish, though it may be noted that there was no such general exodus of prelates as there was in England. Whereas in England fresh consecrations were needed for almost every see, hardly any were required in Ireland. But, though the continuity of the present Church of Ireland with the pre-Reformation Church is thus established, it has for centuries been the church of only a section of the people, of whom by far the larger portion remained under papal jurisdiction. The first convocation of the Irish clergy was held in the reign of James I., the Irish articles being drawn up in 1615. These were accepted by the Irish Church in 1634. The distinctly Calvinistic tone of these is indicative of the way in which the Church of Ireland has always inclined more in the direction of the advanced reformers than has the Church of England. During the 17th century its most important prelates were John Bramhall, archbishop of Armagh, Jeremy Taylor, bishop of Down, and William King, bishop of Derry. The Act of Union of 1800 linked the Churches of England and Ireland into the 'United Church of England and Ireland,' but the progress of the reformed doctrines made no progress. The injustice, therefore, of having an Established Church which held the [illegible] a small fraction of [illegible] was continually [illegible] movement for the [illegible] vileges of the Irish [illegible] to take effect. In 1833 the Church Temporalities Act abolished two of the four Irish archbishoprics and eight of the eighteen bishoprics, and four years later certain grievances with regard to tithes were removed. Finally, in 1869, a Bill for the disestablishment of the Irish Church was passed on the introduction of Mr. Gladstone. Before the Act [illegible] a synod [illegible] ch [illegible] nt [illegible] ce then no doctrinal or disciplinary changes of importance have been

made. It is generally felt by churchmen that the results of disestablishment have been almost entirely beneficial. The Disestablished Church has about 1500 clergy, and nearly 600,000 adherents. *See* Mant's *Hist. of the Church of Ireland*, 1840; Lee's *Irish Episcopal Succession;* Olden's *Church of Ireland*, 1892.

Ireland, Alexander (1810-94), a British author and journalist, born at Edinburgh. His early years were spent in business unconnected with literature, but in 1846 he succeeded Mr. (afterwards Sir) Edward Watkin as publisher and manager of the *Manchester Examiner*. Among his friends I. numbered Carlyle, Emerson, Leigh Hunt, and Robert Chambers. He was the author of *Ralph Waldo Emerson: His Life, Genius, and Writings*, 1882; *Recollections of George Dawson and his lectures in Manchester in* 1846-47, 1882; *The Book-Lover's Enchiridion* (6th ed.), 1890, his best-known work.

Ireland, Mrs. Annie (*d.* 1893), the second wife of Alex. I. (*q.v.*), was the sister of Henry Alleyne Nicholson. She wrote a biography of *Jane Welsh Carlyle*, 1891; edited her correspondence with Miss Jewsbury (1892). Her recollections of James Anthony Froude were published posthumously in the *Contemporary Review*.

Ireland, William Henry (1777-1835), a forger, inherited the interest of his father, Samuel I., author, in the works of Shakespeare; but unfortunately in him it took the form of inventing documents concerning the poet, and imitating his handwriting and signature. The forgeries were so well executed that they deceived, not only Samuel I., but such men as Dr. Parr, Sir Isaac Heard, Dr. Warton. [illegible] ess I. wrote *Rowena* and ascribed to [illegible] ier was produced by Sheridan at Drury Lane in March 1796. In the meantime, however, suspicion had been aroused, and Malone exposed the fraud, which [illegible] perpetrator acknowledged in *Authentic Account*, 1796. This [illegible] subsequently (1805) expanded into his *Confessions*. In later years he wrote many novels and romances of considerable merit.

Ireland Island, *see* BERMUDAS.

Irenæus, St. (c. 120-202), Bishop of Lyons at the end of the 2nd century, seems to have been a native of Smyrna, Asia Minor. In early youth he seems to have been connected with Polycarp. He was a priest of the church at Lyons under Pothinus, its bishop, upon whose martyrdom, in 177, in the persecutions of Marcus Aurelius, I. succeeded to the bishopric, which he held for twenty-five years. He spent great labour upon missionary efforts among the Pagan Gauls, but he is best known for his attempts to mediate between the bishop of Rome and the Christian churches in Asia Minor, in their dispute about the proper day for the celebration of Easter, and for his opposition to the Gnostics and the Valentinians. The account of his martyrdom under Severus is not found before the writings of Gregory of Tours and is probably a mistake. Of his writings only a few fragments of the *Adversus Hæreses*, in the original Greek, and a barbarous Latin translation of it, are all that are extant. *See* editions of his works by Erasmus (1526), Stieren (1851-53), Harvey (1857), and in Clark's Ante-Nicene Library.

Irene: 1. (*c.* 752-802) A Byzantine empress. She was a poor but beautiful and talented orphan, a native of Athens, whom Leo IV., East Roman emperor, married in 769. On the death of Leo (780) she ruled over the empire, her son, Constantine VI., being only ten years of age. She restored the orthodox image-worship, for which deed she was canonised by the Greek Church after her death. When Constantine grew up he tried to free himself of her autocratic sway, and in 790 was proclaimed sole ruler by the soldiers. Two years later the empress conspired against her son, and had his eyes put out. She tried to arrange a marriage between herself and Charlemagne. In 802 she was banished by the patricians to Lesbos, Nicephorus, her treasurer, being placed on the throne. 2. A Roman goddess of Peace, according to Hesiod, a daughter of Zeus and Themis. She was worshipped at Rome and at Athens.

Ireton, Henry (1611-51), took an active part in the Civil War, on the outbreak of which, in 1842, he was nominated captain of a troop of horse to be raised at Nottingham, near which town his estates were situated. [illegible] tion of Charles I. In 1649 he went to Ireland as Cromwell's deputy, and rendered yeoman service to his party. He died of fever when besieging Limerick.

Iriarte, Tomas (1750-91), a Spanish poet, born at Orotava in Teneriffe. He began his literary career by the translation of French plays, publishing his first original comedy, *Hacer gue hacemos*, in 1770. In 1771 he became official translator in the foreign office at Madrid, and in 1776 keeper of the records in the War Office. A dull didactic poem, *La*

Musica, 1780 (Eng. trans., 1807) inspired by Haydn was much admired, but his fame rests mainly on his *Fabulas Literarias*, 1782 (Eng. trans., 1806), two of which, *The Donkey Flautist* and *The Dancing Bear*, are especially celebrated. *See* Emilio Cotarelo y Mori, *Monograph*, 1897.

Iridaceæ, a natural order of monocotyledonous plants, consisting of nearly 1000 species, which flourish in temperate and tropical lands. They are usually herbaceous plants of such beauty as to justify their cultivation for ornament alone. The flowers are hermaphrodite, with a petaloid perianth in two whorls of three, united at the base to form a tube; there are three stamens, and the inferior ovary consists of three united carpels, divided into three loculi containing numerous ovules; the fruit is a capsule. The *Iris* and *Crocus* are representatives of the predominant northern form of this order, as the *Gladiolus*, *Freesia*, and *Ixia* are of the southern.

Iridescence, the name given to the delicately-tinted, lustrous sheen found on mother-of-pearl and other finely-grooved surfaces, as well as on the wings of certain insects. It is due to the interference of waves of white light reflected from the different levels of the grooving.

Iridium, one of the metals of the platinum group. I. occurs as an alloy of platinum, and also of osmium in the Urals, Brazil, and elsewhere. It is fusible only with difficulty, extremely insoluble (in the massive form it is not attacked by *aqua regia*), and separable from its allied elements only with difficulty. The best method for its preparation is that devised by St. Claire Deville and Debray. This consists in fusing osmiridium with zinc, distilling off the latter so as to leave a porous mass. This is powdered, mixed with barium nitrate, and ignited. The osmium is converted into barium osmate, and the I. into its oxide. On boiling with nitric acid the osmium is volatilised as the tetroxide, while the I. is obtained in solution from which the double ammonium chloride can be prepared. This, on ignition, gives I. in a spongy form which, on fusion with lead and [illegible] with nitric acid, [illegible]. I. is used for [illegible] gold pen-nibs, and for making standard measures. Its compounds resemble those of platinum (*q.v.*).

Iriga, a tn. of the prov. of Ambos Marines, Luzon, Philippine Is., on the Buhi R. The chief products are rice, Indian corn, sugar, pepper, cacao, cotton, tobacco, copra, and wood woods. Pop. (1903) 19,297.

Iris, one of the larger of the asteroids, planatoids, or minor planets, a group of small planetary bodies between Mars and Jupiter, first discovered in 1801-2. *See* ASTEROIDS.

Iris, the chief genus of Iridaceæ, and its well-known species are known popularly by the names of *fleurs-de-lis*, *flowers-de-luce*, and flags. Although over 100 species occur in N. lands, only *I. Pseudacorus*, the yellow flag, and *I. fœtidissima*, the gladwyn or blue I., are to be found in Britain. *I. Florentina*, the Florentine I., is a native of S. Europe, and the islands of the Mediterranean; its rhizome has an aromatic odour like that of violets, and is known as orris-root.

Iris, in Greek mythology, was the daughter of Thaumas and Electra, and the sister of the Harpies. In the *Iliad* she is mentioned as the messenger of the gods, but the office is given to Hermes in the *Odyssey*. In earlier writers she is mentioned as a virgin goddess with wings of gold, but later writers make her the wife of Zephyrus, and the mother of Eros. She was especially considered the messenger of Hera and Zeus, and is depicted with a herald's wand, and a pitcher in her hand. In Greek the word 'iris' denotes 'a rainbow,' of which she is generally considered the personification.

Irish Moss, *see* CARRAGEEN MOSS.

Irish Sea, the sea which lies between the N. of England, and the N. of Ireland, connected with the Atlantic on the N. by the N. Channel, and on the S. by St. George's Channel. The greatest breadth (between Morecambe Bay, Lancashire, and Dundalk Bay, Louth) is 150 m.; the greatest length is about 110 m. Within its boundaries are the Isles of Man, Anglesea, and Holyhead.

Irish Terrier, a rather large dog, varying in weight from 17 to 25 lbs.; with a hard, rough, and wiry coat, without any tendency to curl. Its usual colour is a bright reddish-brown, but varies through different shades of brown. Its head should be long and rather narrow; the ears small, filbert-shaped, and lying close to the head; the eyes small and hazel, and the nose black; the legs straight and strong with round thick feet; chest narrow with deep brisket, and back straight and strong; the tail, if not cut, should curve. The I. T. is quite a modern breed, dating from about 1870; it is much valued for its affection and pluck, and its enthusiasm for chasing anything and everything.

Irish Times, the largest and most influential penny daily paper in Ireland. It is essentially the anti-Home Rule, anti-Catholic, and loyalist

newspaper of Ireland, a character which it has preserved from its foundation in 1859 by Major Lawrence Knox. It has special correspondents in England, and in all parts of Europe and A[illegible]ica, and possesses a private wire from London to Dublin. Published in Dublin, as is the *Weekly Irish Times*, and *Evening Times*, owned by the same proprietors, makes a special feature of prospectus advertisements. Purchased in 1873 by Mr. (afterwards Sir) John Arnott.

Irish Wolfhound, supposed to be the oldest breed of dog in the United Kingdom, but the original breed in reality has died out, and information concerning it is only obtainable by tradition, although [illegible] e been made to [illegible] enjoyed a great [illegible] strength and their courage in attacking wolves. In appearance, they seem to have been of two kinds, one resembling a greyhound, and the other a mastiff. The modern I. W. is the result of the endeavours of Captain Graham of Dursley, Gloucestershire, to reproduce the old breed, but there is no positive proof that it does so. They are t[illegible] Dane[illegible] men[illegible] of cr[illegible] strain with a dash of Siberian wolf strain, with a Russian wolfhound. The points of this modern breed as required by the Irish Wolfhound Club standard, are: General appearance not quite so massive as the Great Dane, but more so than the deerhound, the largest hunting dogs in existence, with minimum height of 31 in. and weight of 120 lbs. (bitches 28 in. and 90 lbs.); head long and narrow, muzzle long and moderately pointed and ears small, and greyhound-like in carriage; neck long, very strong and muscular, well arched without dewlap; chest very deep and breast wide; back moderately long; loins arched; belly well drawn up; tail long and slightly curved, of moderate thickness and well covered with hair; shoulders muscular and sloping; elbows well under; muscular thighs with second thigh long and strong, and hocks well let down; feet moderately large and round with toes well arched; hair rough and hard on body; any colour that appears in the deerhound but black is rare. *See* James Watson, *The Dog Book*, 1906.

Iritis, inflammation of the eye, in particular of [illegible] called the iri[illegible] cornea and t[illegible] sociated [illegible] turbance, [illegible] syphilis, [illegible] secondary to inflammation of the cornea or of the sclerotic or choroid coats; it is sometimes symptomatic of meningitis; or may be caused by actual injury or infection from foreign bodies or by chill. The symptoms are pain, especially at night, disturbance or occlusion of vision accompanied by a dread of light and the shedding of copious tears. The physiological changes include an excess of blood at the beginning of the attack, followed by exudation into the fibrous substance of the iris, possible adhesions to the lens or collections of pus between the lens and the iris. Inflammation of the ciliary body is a frequent complication. The attack may subside in about six weeks, it may become chronic, or it may take on a recurrent form; in severe cases permanent tissue changes may take place, leading to serious impairment of vision. The treatment depends on the nature and severity of the attack. Generally, rest for the eye is of prime importance; the eye should be shaded, and no occupation requiring its constant use should be permitted; the patient should not, for instance, read at all. Pain may be alleviated by hot fomentations or the administration of cocaine. Operations involving the cutting away of part of the iris are called for in some cases. It has been found that adhesions may be treated with success by the use of elcctrolytic method.

Irkutsk: 1. A gov. of Eastern Siberia, Asiatic Russia, bounded by Yeniseisk on the W., Yakutsk on the N., Lake Baikal and Transbaikalia on the E., and Mongolia on the S. The country is of a mountainous character, with a general elevation of about 1500 ft., traversed by the loftier chains of the Kitoi and Tunkun in the S., the Sayan Mts. from S. to N.E., and the great plateau of Northern Siberia to the N. A great part of the area is given up to agriculture, rye, wheat, barley, oats, and potatoes being cultivated and cattle bred, but the S.E. portion is largely forest land. The most important river is the Angara (1000 m.), connecting Lake Baikal and the Yenisei. Coal, iron, salt, fire-clay, and granite are found, but are little worked. Fishing in Lake Baikal and trapping for furs are the chief industries outside agriculture. The climate is severe and earthquakes common in the neighbourhood of Lake Baikal. The inhabitants are mostly Russian-Buriats, and Tunguses. The total population in 1910 was estimated at 674,900. Area 280,429 sq. m. The chief towns are Irkutsk, Balagansk, Kirensk, and Verkholensk. 2. Capital of Eastern Siberia, the seat of the

governor-general, and an archiepiscopal see of the Greek Church, lies on the Angara R. and on the Trans-Siberian Railway, 40 m. N. of the S. extremity of Lake Baikal and 3722 m. from St. Petersburg. The town was almost destroyed by fire in 1879, and has been rebuilt on a remarkably fine plan. It has many fine buildings, a few factories, and a gold refinery, and is an important commercial post and the centre of the tea trade. Pop. 108,060.

Irlam, an eccles. par. and vil. of Eccles (*q.v.*), S. Lancashire, England, 7½ m. S.W. of Manchester, at the junction of the Mersey and the Manchester Ship Canal. Pop. (1911) 6309.

Irmin and Irmin Pillars, in Teutonic mythology, a god of the old Germanic tribes of the Herminones. The huge wooden posts called Irmin Pillars were raised in his honour and worshipped by the heathen Saxons during their wars with the Christianised Gauls. The chief Irminsul, destroyed 772. 'Irmin's name for the Great Bear.

Irnerius (sometimes called the 'Lucerna juris'), an Italian jurist, born at Bologna early in the 12th century. He founded a school at Bologna, and at the instance of the Countess Matilda directed his own and his pupil's attention to the *Institutes* and *Code* of Justinian. He appears to have held some office under Henry V. after 1116, and to have died under the Emperor Lothair before 1140. He is generally considered the first of the Glossators, and the author of an epitome of the *Novellæ* of Justinian called the *Authentica*. See *Monograph* by Vecchio, 1869; and Savigny's *Gesch. d. röm. Rechts im Mittelalter*, vol. iii. (2nd ed.), 1840-50.

Iron Age. Archæologists have divided prehistoric times into three periods of culture: the Stone, Bronze, and Iron ages. These ages do not, of course, succeed each other in this order simultaneously all areas of ain countries of iron in 1 till remote re the metal is A. is marked of iron for weapons and utensils of every-day use. In the East the knowledge of iron appears to have been more ancient than elsewhere. Egypt, in spite of her high state of civilisation, seems to have ignored or little used the metal, preferring bronze, long after the countries she traded with had attained the full knowledge of iron. Iron is, however, mentioned in a funeral text in 3400 B.C., and some pieces of iron have been found, so while copper was extensively mined in the peninsula of Sinai and bronze used both for weapons and ornaments, we find (at present) no important traces of the use of iron till 1500 B.C. Assyria, it is believed, knew the metal long before the people of the Mediterranean, their ancient tribute lists show their appreciation of iron. In the 9th and 8th centuries B.C. we find large quantities used by Asiatic nations, and a much smaller amount in the layers of ancient Europe. Assuming that the Homeric poems refer to a stage of civilisation about 1200 B.C., it is important to notice that iron is not the metal used for weapons, but bronze, and this has been proved by the recent finds on the sites of Troy, Tiryns, Mycenæ, and Knossus. The first known type of the I. A. of Europe is the Hallstatt type. Near Hallstatt, a place in Upper Austria, was found a famous Celtic burial-ground. The excavations here revealed an entirely new form of culture, called by archæologists 'Hallstatt,' implying a transition stage from the bronze to the I. A. Previous excavations had shown the immediate change from bronze to iron, Hallstatt shows the gradual growth in the use of the metal. Professor Ridgeway expresses his belief that the use of iron originated in the Hallstatt area and spread thence over Europe and down through the Ægean to Egypt and Asia. The most famous iron mines of antiquity were at Noricum, less than 40 m. distant from Hallstatt. The Hallstatt graves yielded swords, daggers, javelins, spears, helmets, axes, shields, and various forms of jewellery, also amber and glass beads; silver was apparently not known. Most of the weapons were of iron, only a few being of bronze. The swords were fashioned for cutting, not thrusting, with curved hilts unlike those of the Bronze Age. The Hallstatt culture appears to be that of the Homeric Achæans. It seems probable that the brooch was invented in Central Europe some considerable time before 1350 B.C., and that the early I. A. of Hallstatt must have originated long before that. At Villanova in Italy, in an ancient cemetery near Bologna, excavations have also shown iron gradually superseding bronze: the culture of Villanova is part of the Hallstatt civilisation. The links between the N. and S. are uninterrupted, though the development of iron in Italy is later than that of Hallstatt. La Tène (the great depths) is the name of a site,

once a lake dwelling, near the village of Marin in Switzerland. Interesting discoveries were made here, and like Hallstatt the culture of 'La Tène' takes its name from the place where the excavations were carried out. This culture, about 500 B.C., appears to be a succeeding phase to the Hallstatt period. The finds were swords of iron, spear-heads, axes, knives, scythes, brooches, bronze kettles, belts, pins, etc. This culture is also known as the Late Celtic. The I. A. of the Scandinavians is still a matter of dispute, some authorities placing it about 500 B.C., others a hundred years later. The cemeteries on the island of Bornholm contained graves which yielded iron brooches and buckles, but better finds were obtained from the bogs and fields of Denmark, in the shape of chariots overlaid with bronze and massive ornaments of iron and bronze, etc. The influence of La Tène is seen clearly in this northern culture. Weapons were seldom found in graves, but at Vimose in Fünen 3500 objects were discovered, apparently the débris of a battle-field. The Viking Age from 800 to the 10th century is famous for the beauty and perfection of its metal work. Iron ore was extracted, smelted, and extensively worked; the swords, knives, battle-axes, and helmets are often decorated with silver of remarkable beauty. The invasion of the Brythoons and the Belgæ gave the British Isles the Late Celtic culture, largely influenced by La Tène, with its fantastic treatment of plants and animals and a free use of the geometrical device and some skill in enamelling. An example of a bronze and enamelled shield found in the Thames near Battersea, date about 10 B.C., now in the British Museum, gives some idea of the skill and artistic merit of their metal work. In 1886 an important discovery was made at Aylesford, Kent, when a pit-burial was unearthed. It contained among other things a pail, flagon, skillet, and three brooches, all of bronze. The handle of the pail is of iron plated with bronze and is movable; the palmette decorations show that it is evidently a copy from a classical model and affords evidence of close intercourse with the Continent. Other finds have assisted to establish the continental parentage of the art of the early I. A. of Britain. *See* W. Ridgeway, *The Early Age of Greece;* Lord Avebury, *Prehistoric Times;* the British Museum *Guide to the Antiquities of the Early Iron Age;* M. Hoernes, *Primitive Man*, trans. in Dent's Temple Primers.

Iron and Steel. Iron (symbol Fe, atomic weight 55·85) is a metallic chemical element, and one of the most abundant. It is hardly ever found in a free state, but owing to the fact that it may readily be obtained from its ores, was known to mankind at a very early stage. Genesis iv. 22 mentions Tubal Cain in this connection, whilst the Assyrians and Egyptians employed it several centuries before our era. A most instructive paper by Sir *R. A. Hadfield*, presented to the Iron and Steel Institute in 1912, shows that the Indians and Cingalese extracted the metal from its ores in large quantities at least 1500 years B.C., and the theory is developed that it was from these shores that Egypt first became acquainted with its uses; further, that it is exceedingly probable that the Iron Age preceeded the Bronze Age, because the manufacture of the latter alloy requires a great deal of metallurgical skill.

Iron possesses several qualities, which tend to show that it is the most remarkable element known to man. It is the most tenacious of all the ductile metals at ordinary temperatures, excepting nickel and cobalt; it softens at a red heat, and may be easily welded at a white heat, above which, however, it becomes brittle, but the magnetic property is the most curious and useful, for without this we should not have the electricity which rules the world to-day. It is a point well worth noticing, that a population that needs iron is set in a place where it can be easily obtained.

Sources of iron.—Iron is an element which is very chemically active, and it is due to the fact that its oxidising properties are so marked, that it is only rarely found native except as meteorites. There are five important iron ores from which to-day we extract our yearly consumption of about 80,000,000 to 100,000,000 tons.

(1) *Magnetite* (Fe_3O_4), containing 72·41 per cent. iron; a black ore which is very magnetic. (2) *Hæmatite* (Fe_2O_3), containing 70 per cent. iron; its colour varies from bluish-grey to deep red. (3) *Limonite* ($Fe_2O_3 3H_2O$), containing 59·9 per cent. iron; its colour varies from light brown to black. This substance is known as brown hæmatite to differentiate it from the previous, which is called red hæmatite. (4) *Siderite*, or *spathic iron ore* ($FeCO_3$), containing 48·28 per cent. iron; its colour varies from yellow-brown to grey. (5) *Pyrites* (FeS_2), containing 46·7 per cent. iron; its colour is a bright golden yellow. Copper pyrites ($CuFeS_2$), a double sulphide of copper and iron,

is used first in the production of sulphuric acid, then of copper, and finally the iron is made use of.

Now these ores themselves are never found in a pure state, but always mechanically mixed with quartz-limestone and clay, which impurities are collectively termed 'the gangue.' It is the extraction of the iron from the gangue with which we are next concerned.

Extraction of iron.—The iron blast furnace is a crude but very efficient piece of apparatus, consisting of an enormous shaft usually about 80 ft. high and some 20 ft. wide at the belly. It is full at all times of a mixture of fuel, ore, and limestone in solid lumps, which are charged through the top. The mass slowly descends as the fuel gets burnt away by the 'blast,' or hot air blown through the 'tuyeres' near the bottom, and the iron itself gets melted and by its greater weight falls to the bottom, whilst the earth of the ores, the gangue, and the limestone unite to form a complex form of slag, floating on top of the molten metal. The gases of the blast roughly consist of nitrogen and carbonic oxide. In their rapid rush up the furnace they deoxidise the iron. On its downward path the metal saturates itself with carbon from the fuel up to about 3·5 to 4 per cent. This is an indispensable part of the process, because it is only through this that the iron can be made fusible enough to melt at any temperature, which it is possible to generate in the furnace, and only when molten can the metal be separated from the slag. In addition to the duties already mentioned, the fuel has the further one of desulphuring the metal by transferring the sulphur to the calcium of the gangue. The limestone is there: (1) in order to make a slag which can be rendered fluid several feet above the hearth; (2) to make it fluid enough to run out of the appointed hole; (3) to provide enough lime to take up the sulphur. The molten metal at the bottom of the furnace is at intervals drawn off by opening a clay bung in the base, and is allowed to run into sand moulds; the result is known as 'pig-iron.'

Cast iron.—These pigs are nearly always remelted before the article of commerce known as cast iron can be produced. Such castings are of three types: (1) Grey; (2) chilled; (3) malleable. The first group of castings is usually made by remelting the pig-iron in comparatively small cupolas, where practically no change of chemical composition takes place, and then casting direct into moulds, which may be either green, dried, or even of iron covered with a suitable refractory material. The next group is produced in exactly similar fashion, with the addition that the moulds are cooled rapidly in such a way that only the outside shell of the metal is affected.

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castings a brand of iron is used with a low melting-point, and the castings so made are subjected to further treatment either: (1) the casting containing, say, 3 per cent. carbon, *is packed into hæmatite and* heated until decarbonised so that the remaining carbon is about 0·2 per cent., or (2) the outer shell only is decarbonised in a somewhat similar way, free carbon being deposited in the interior of the mass. This latter type is known as 'Blackheart' and is the product of Leys at Derby, who have adopted this name as their trade-mark.

Steel and wrought iron.—The other great iron products are two in number and go by the name of steel and wrought iron. They are both produced from pig iron by what is known as a conversion process, and it is very difficult to draw an exact line of demarcation between wrought iron and low carbon steel.

The difference between cast iron and wrought iron is largely chemical. The cast iron contains more carbon, silicon, and phosphorus than is suitable or, indeed, permissible in the latter. Hence the great object of conversion processes is to remove these excesses by oxidation. The carbon volatilises off as carbonic oxide; and the others, *e.g.* silica and phosphorous pentoxide, unite with any oxidising agent that may have been introduced to form a slag. Another foreign body, which is the hardest to remove, is sulphur. Its exact final constituent is hard to determine, but may be taken as being a combination of calcium sulphide and manganous sulphide, which gets absorbed into the slag, whence it escapes in a gaseous form as sulphur dioxide.

In the *puddling process* cast iron is converted into a low carbon, slag-bearing mass by means of iron oxide, which is slowly stirred into the molten metal, as it lies in a shallow bath or hearth. The oxidation is carried out precisely as described above. The lower the mass of carbon in the iron the higher becomes the melting-point, so that as the molten metal gradually gets decarbonised, so it slowly solidifies. This spongy mass is welded together by the 'puddler' into balls weighing some 80 to 100 lbs., which consist of spongy iron intermingled with slag, which is

rapidly expelled under the influence of hammering.

The mechanical differences between cast and wrought iron are worthy of notice. Cast iron is weak in tension and strong in compression, but is extremely brittle, and has no ductility. Wrought iron, on the contrary, is not brittle, but is most ductile.

Steel.—From wrought iron to steel is but a step, but before continuing the account it may prove advisable to give a few definitions of the various kinds of steels which have been on the market from the time when it was first discovered that iron could take an edge. Steel may either be of plastic origin, *i.e.* formed by treating the cast iron, described above, in furnaces, so burning off the high carbon, or it may be made by a fluid process. Taking the latter, the more usual method of manufacture, it may be defined thus: Steel is iron, nearly pure or alloyed with other elements, which has been cast in the fluid condition, and is capable of being worked (hammered, rolled, pressed, stamped, or drawn) after heating into merchant sizes.

Nomenclature of steels: (a) Blister steel.—Cemented, converted, or blister-bar, made from pure Swedish iron (see '*Huntsman*' *or crucible process*). *(b) Shear steel,* made by breaking up the brittle blister bars, heated and hammered to add toughness and then called 'plated bars.' These are piled and clamped together and heated to a welding heat with a flux of sand and fluorspar, and then drawn to a rectangular shape and rolled into a solid mass. This is called 'single shear steel,' as from this type of steel the Clothiers' Company had shears made. The process is one of considerable antiquity. 'Double shear steel' is the result of bending single shear steel on itself, rewelding, and finally re-rolling. (c) *Tilted steel,* which is becoming obsolete, is made from Siemen's scrap.

PROCESSES OF MAKING STEEL.—These are all steels of plastic origin; we have now to consider the various processes of making steel by liquefaction of the iron. Till quite recently there have been three great processes: (i.) The 'Huntsman' or crucible process. (ii.) The Bessemer or basic process. (iii.) The Siemens-Martin or acid process. To this list must be added the use of the electric furnace as employed largely in Norway and the U.S.A., and to some extent in this country and on the Continent.

(i.) '*Huntsman*' *or crucible process.*—Modern steels which are required for working at high speeds are made chiefly by the 'Huntsman or crucible process; these steels include all sorts of machine shop tools for cutting operations, as well as files and razors. The source of all such steels is Swedish iron, which is the ore magnetite, and from this country has come for 200 years the material which is the base of our best cutting tools. This black ore is found very pure and in large veins in the mines at Perseberg and Dannemora. The resultant steel has to be low both in phosphorus and in sulphur, or it is useless to withstand shock, and partly owing to nature and partly to treatment Swedish iron possesses this property.

The first group of operations on the ore is performed in Sweden: Calcination is carried out in stoves heated by blast-furnace gas, during which operation the sulphur is eliminated as sulphur dioxide. This renders the heavy ore quite porous; the more porous it is the easier the further reduction. Weathering.—The porous ore is placed out of doors exposed to the action of wind and rain, to wash out any remaining sulphur as a soluble sulphate. Smelting.—This operation is performed in the blast furnace, charcoal being used as the fuel, and the resultant pig is free from silver and phosphorus. The flux used consists of lime, reduced from some form of calcium carbonate, in order to remove the silica and alumina. This so happens by the fusion of the three into a gangue, which is really a double silicate of calcium and aluminium. Then finally the usual action takes place between the oxygen and the carbon monoxide of the gas, leading in the end to the following equation for the reduction of the iron, viz. $Fe_2O_4+4CO=3Fe+4CO_2$. The resulting iron is in a spongy condition, and gets fused together and melts, but so do the earthy matters in the flux; so that whilst the Fe is falling to the bottom it takes up from 5 per cent. to 6 per cent. of impurities, chiefly carbon. The end of this stage is known as pig iron, of which there are three chief varieties:

	Analysis		
	Grey %	Mottled %	White %
Combined-Carbon	·4	2	3·6
Graphite	3·6	2	·4
Silicon	1	·5	·2

The combined-carbon has the formula Fe_3C, containing 6·67 per cent. carbon.

The next stage is the reduction of pig iron to commercially pure iron, containing from 99·5-99·7 per cent. iron. The first, the 'Walloon,' pro-

cess is by far the older and cruder. The impurities pass off as oxides of carbon, sulphur, and phosphorus. This leaves a sponge at the bottom composed of iron slag intimately mixed, which is taken out of the furnace and hammered into a square bloom weighing some 70 lbs.; the effect of the hammering being to press out the slag. This done the blooms are *further hammered into 3-ft. bars* for export. The 'Lancashire Hearth' is the same process on a larger scale, but 'Walloon' iron is much more valuable owing to the probability of the occlusion of oxygen in the former.

A change can now be observed in the mechanical properties: (1) The metal is elastic. (2) The elongation on a 2-in. specimen is up to 40 per cent. of its length. The reduction of area on a ‡ sq. in. specimen is up to 70 per cent. of its area. (3) The mechanical stress is as high as 20 tons per sq. in.

The next stage is the manufacture of steel from the Swedish iron. The iron is converted to steel by the 'Cementation process.' This process carburises the iron to any desired extent, and is done in what is known as the 'dry way,' because the iron never gets more than plastic, *i.e.* its temperature never exceeds 1100° C. It is carried out in firestone crucibles which hold from 12 to 50 tons per chest, of which there are two per crucible. Charcoal is packed in alternate layers with the iron, and this must be done in the absence of air: the whole is then covered with a roof of 'Wheelswarf,' a mixture of *silicon and steel filings; this does not*, on the average, expand, but if it does the steel is ruined. The amount of carbon present will depend on the time the process goes on. Fourteen days are allowed for cooling and the result is 'Blister steel,' since it comes out brittle and covered with blisters, having gone in tough and smooth.

The carbon meeting the slag reduces the oxides of iron and silica with the evolution of carbon dioxide, which blows the bubbles. This is a test of genuineness. There is to be found on the market Irish Blister steel with no blisters: this has probably been made from Siemens or Bessemer scrap and is no good. The blister bar is then cast into an ingot. This is a peculiarly difficult process and requires great skill. The amount in a crucible is generally about 56 lbs.; so some 60 lbs. containing about 1 per cent. C. are taken and rendered fluid in [illegible] furnace; [illegible] Before [illegible] bottomed, and until that is done we can have no indication that it is clear-melted. Moulds are generally 3 ft. by 3 in. by 3 in. If the steel were poured in straight, it would boil over the top of the mould and form a bonnet, and on sawing longitudinally through the ingot it would be found to be honeycombed and useless.

General classification of carbon steels.

	Percentage of carbon.	
(1)	·08	
(2)	·21	Structural steels, *e.g.* boilers, girders, axles, etc.
(3)	·38	
(4)	·59	Holding down bolts.
(5)	·74	
(6)	·89	Chisels.
(7)	1·20	Turning tools.
(8)	1·47	Files, razors, etc.

Foreign particles are frequently classed as slag inclusions; this is entirely wrong, because the slag is really a silicate, and foreign matter is evidence of careless manufacture. The bulk of it is not slag at all, but sulphide of manganese, a natural and unavoidable constituent. The amount present should be expressed in percentage by volume, and not in percentage by weight; an approximation being got by multiplying the percentage of sulphur by weight by 5. Therefore we might get ·05 *sulphur by weight gives* ·25 *sulphide of manganese by volume.* Manganese sulphide is dove-grey and rolls out with the steel; slag is dark and has some sort of structure; manganese sulphide has none. Further, it is innocuous, for if there be no manganese in the steel we get *FeS*, a yellow-brown substance which is very dangerous to the steel because it is fluid at a red heat.

(ii.) *The Bessemer or converter process.*—This was first conceived in a paper read before the British Association in 1856 by Sir H. Bessemer. Sydney Thomas and Gilchrist in 1878 improved on the furnace by lining it with a base (*q.v.*), *e.g.* powdered magnesia, limestone mixed with anhydrous tar. *See* BESSEMER PROCESS.

(iii.) *The Siemens-Martin or acid process.* — About 1868 Sir William Siemens and Messrs. Martin in France worked at a method for producing steel from pig iron, scrap, and ore in an open hearth, to which heat was applied by gas combustion. The first trouble with which they had to contend was that of finding a suitable roof to withstand the heat of the molten metal. In its most elementary form the furnace consists of a large open hearth, containing at its [illegible] nt of [illegible] : the [illegible] passed [illegible] have [illegible] gases

finding their way through them to the stack during an earlier part of the melt. Thus there should be found compartments, one for gas, one for air, and two being heated up. At intervals of twenty minutes during a melt the gas and air are switched off so as to pass through the hot ones. This fact adds considerably to the efficiency of the operation. For every ton of steel produced some 6½ cwts. of coal is required, whereas in the older furnaces 8 to 11 cwt. was not an uncommon figure. It is called the 'acid' process from the fact that anhydrous silicic acid is used as the base lining of the furnace. It may be described as the pig-scrap-ore process. The pig varies from 20 per cent. to 80 per cent. according to the required composition of the steel, a very fair average being 50 per cent. of each. The melt should be started with the furnace having a good hot bottom, and a smooth, well burnt-in hearth. When molten, a solid oxide of iron (Fe_2O_3) is added till the mass boils. Two points need careful attention: (1) the temperature must be high, about 1750° C. (3362° F.); (2) there must be enough basic slag (Fe_2O_3). For example, if the slag corresponds to 48 per cent. silica, the bath boils briskly, but if the slag corresponds to 58 per cent. silica, the bath will never boil. Suppose the steel when cast is to contain 0·2 per cent. carbon, then ore should not be added till the slag thickens, and slag should be added as long as possible before tapping, otherwise there will be too much oxygen occluded in the steel. The percentage of carbon present is estimated from time to time by 'the Eggertz colour test.' In this rapid test a specimen is taken from the boiling bath and quenched in water; a certain quantity is dissolved in dilute nitric acid, and then the colour of the liquor is compared to that obtained from a known sample similarly dissolved.

Finally, the steel must be killed as in the Huntsman process, either by ferro-manganese, or by the addition of not more than 0·01 per cent. of pure aluminium. When the bath is ready for tapping, the clay-silica bung is knocked out, and the mass run into the ladle, and the utmost care must be taken to see that no metal is left in the bung-hole, otherwise, when the new charge is started, there will be a sudden outbreak, and all the charge may get lost. In modern works the ladle is drawn away by a locomotive to the casting pit which is generally situated in a different building.

So far we have only considered the making of a dead-mild steel, or one in which the carbon is not more than 0·2 per cent., but open-hearth steel of high carbon content is used for axles, tires, guns, armour-plate, and steel castings, so that we must here consider the manufacture of such products.

There are, broadly speaking, three principal methods of making steels, varying from 0·25 to 1·2 per cent. carbon in the open-hearth: (1) Charge with pig and scrap, and tap as soon as the metal is sufficiently decarburised; (2) work the charge down to dead-mild, *i.e.* less than 0·2 per cent., and then recarburise with pig iron; (3) recarburise outside, by adding powdered carbon to the mass in the ladle. Of these processes number ii. is known as 'pigging-back.' Equally with the Bessemer process, the Siemens method can be used as a basic method, by lining the bath with dolomite. But it has been found that the acid process produces a safer—more coherent—steel than the basic process. In favour of the basic process, however, must be put the fact that high-phosphorous scrap and pig can be used; and this can be obtained at a lower price than the best selected scrap, which is used in the acid process.

Comparison of Siemens-Martin and Bessemer processes.—Quality is the first consideration and here the open-hearth process scores over the converter, because the operations are more under control, as samples can be taken at any period; and there is far less danger of over-oxidation. Exact carbon percentage is more easily obtained by the Siemens process. The open-hearth yields, on an average, 96 per cent. of the charge as steel, whilst the converter only averages about 85 per cent. The acid-Siemens is the most expensive, due to the need for selecting the pig and scrap so carefully. But, in order to compare the two processes, we must take into consideration local conditions. First, as to supply of raw materials; and secondly, as to type of output required. Conditions tend to show that the basic-Siemens will be the process of the future, as there are several deposits which have the phosphorus too high for use in an acid process.

(iv.) *Electric steels.*—There are three distinct types of electric furnaces which are now commercially employed in the production of steel, although at present their chief use is either to melt up special scrap so as to produce high-class steels, or to assist in the further refining of Bessemer or Siemens steel. The three types may be designated: (1) Induction; (2) Arc-Resistance; (3) Arc Furnaces.

(1) As a specimen of type 1 we will consider the Kjellin furnace, which was invented in 1899, and is probably the most successful type of induction furnace. In outline, the metal to be melted forms the completely short-circuited secondary of a transformer. From the beginning of the operation with a new furnace, the process is somewhat as follows: Firstly, rings are placed in the bath welded to the size of Swedish iron. Secondly, the magnesite basic lining of the crucible or bath is rammed tight home; more cast rings of white Swedish iron, some 3 in. by ⅜ in. in section, are placed in position. Thirdly, the current is switched on and the rings melt. Then the first charge is put in and two-thirds of this is taken out when melted, and is thrown away. Similarly a second charge is used and wasted; of the remaining one-third left in the bath a careful analysis is taken, as it plays in future the part of the rings, which were used in the first operation. Finally, the furnace is charged up, and the requisite slag is added, in order to prevent oxidisation; this slag is usually a double silicate of lime and alumina. As regards the chemical composition of the finished steel, this has to be obtained by careful adjustment of the various grades charged into the furnace. Various modifications of the Kjellin furnace have been devised, but they nearly all depend on the same principle.

The Röching-Rodenhauser furnace is one that combines a shorted secondary with a resistance, which forms an alternative secondary path, this circuit being made through an actual winding on the links of the transformer connected by a path of refractory material. The short-circuited path is, generally speaking, shaped like a figure eight, thus providing a larger area in the centre.

(2) *The arc-resistance furnace.*—In this type of furnace the larger portion of the heat is generated by an electric arc, the smaller portion being formed by the resistance offered to a powerful current by a portion of the charge. In the Hérault type of such furnaces a current of 4000 ampères at about 110 volts is employed, the charge amounting to about 3 tons. The heat is regulated by raising or lowering the electrodes. In actual working the proceeding is roughly as follows: Lime and iron ore are placed in the furnace bottom, and then miscellaneous scrap, etc., in order to bring it up to the level of the electrodes. The current is then switched on, and passes between the charge and the electrodes; at first, before the iron is melted, they are usually in direct contact, but as the charge melts an arc is established between each of the electrodes and the molten metal, thus absorbing a large portion of the energy. The rest of the procedure follows closely on the lines of the open-hearth process, till the current is switched off at the end of the melt.

(3) *The arc furnace.*—In this type the heat is directly derived from the arc, the electrodes not touching the molten metal at all. Radiation from the sides and roof cause a great deal of trouble in repairs and renewals in this type, but in the Stassaus furnace good work is being done in preparing steel castings from miscellaneous scrap; half-way through the operation the slag is changed, a basic slag being added sufficient to desulphurise and dephosphorise the charge.

General conclusions on electric steels.—Under proper conditions the sulphur and phosphorus can be more completely removed in these furnaces than in any other process; a slightly oxidising slag combined with high basicity is sufficient to eliminate entirely the latter, and to reduce the sulphur down to 0·04 per cent. If the slag could at that point be made basic but non-oxidising it would be possible to remove the sulphur as well. In the Hérault furnace it is found that the high temperature produced is sufficient to melt a non-oxidising slag, so that the phosphorus and sulphur are reduced to mere traces. The present position of such steels compared to that of other processes may be put thus: Firstly, the best kind of steel can be produced from cold scrap, or by refining molten open-hearth or Bessemer steel, as cheaply as in crucibles; secondly, the castings produced are much superior to crucible steel castings; thirdly, where special quality stuff is required, which could only be made from very special scrap in the ordinary way, then it can be produced more cheaply by using inferior material in the Bessemer or Siemens process, finally refining in any of the well-known makes of furnaces; fourthly, with electrical energy at its present price in Great Britain, it cannot possibly com- be made easily g processes. e can be made from open-hearth furnaces, both acid and basic, from small converters, from crucibles, and from the electric furnace. For general foundry work a small open-hearth is the best, and in the making of castings care must be taken that the bath is 'dead-melted,' *i.e.* there must be no free oxide in the slag, otherwise the castings will be spongy. Fluorspar added to the metal in the ladle is said to

give good results. Castings, as a rule, average about 0·35 per cent. carbon, and the sulphur and phosphorus should be low. Moulds play an important part, they are divided into two classes—the green-sand and the dry-sand; the former being used for light rough castings and the latter for heavy ones. The green-sand mould is a generic term for those which have not been dried previous to the molten metal being poured in. They are usually made of common foundry sand mixed with loam. Dry-sand moulds are made as above, but they are faced with moulders' composition and give a smooth clean skin. When cast the steel will be found to be more or less brittle, and this must be removed by annealing; the casting is heated up to about 850° C. and allowed to cool over a long period. The effect is to toughen the casting by removing internal strains, *i.e.* the elongation and contraction are increased, and the maximum stress is decreased.

For *Quenching*, *Tempering*, *Hardening*, and *Case-Hardening*, see separate articles.

Influence of certain elements on steel.—Up to the present we have considered our steels merely of carbon and ir with a few necessary producing sound ingots, to which must be added the few impurities which cannot be wholly extracted. Such are manganese, aluminium, sulphur, and phosphorus.

If *aluminium* be added in larger quantities up to 5 per cent. its effect will be detrimental to the steel. It does not add to the elasticity, nor to the rigidity, and certainly spoils the welding property.

springs; also for armour plates and projectiles.

Manganese.—A steel containing large quantities of manganese may present several curious phenomena. If the addition is limited from 2·75 per cent. to 7 per cent., the metal is brittle and worthless, but between 7 per cent. and 20 per cent., what is, to all intents and purposes, a new metal, is obtained. In the cast state it is so hard as to be practically impossible to machine; but in the forged condition whilst still possessing great hardness, a very considerable elongation coupled with great tensile strength is obtained. Another property is that it is practically unmagnetisable; and lastly, it can be softened and then re-hardened by the following treatment. On being quenched from 900° C. it becomes soft and tough, the latter property increasing with the temperature and the suddenness of quenching. Hardness is restored by heating to a full red and cooling.

Nickel.—The addition of nickel may be made up to 30 per cent. with, on the whole, good results. Up to 20 per cent. the tensile strength and elastic limit rise enormously, whilst the elongation and reduction of area do not suffer, compared to those properties of ordinary mild steel. Nickel-chrome steel is largely used on the Continent for manufacturing large guns.

Tantalum and *Titanium* are only used at present to a very slight extent, though the latter element has been used in America for rails, and is supposed to add largely to their life.

Tungsten, or *Wolfram*, is used in large quantities for conferring hardness to tools (*see* sub-section on *High speed steels*), and for permanent magnets to a slightly lesser degree. In the latter the addition of the special element is kept down between 5 and 6 per cent.

Vanadium is a curious element to

been generally recognised as being a most powerful metal for alloying with steel, but it seems to form at least two carbides, which are difficult to deal with in the case of heat-treatment. Its mechanical strength is certainly enormous, but when added above 2 per cent. the temperature from which quenching must take place is too near the fusion point to be of use. When combined also with um, an alloy is obtained which powerful to resist alternating The most recent work on this has been contributed to the l of the Iron and Steel Institute by Profs. J. O. Arnold and A. H. Read in May 1912.

High speed steels.—At the Paris Exhibition of 1900 the whole of the engineering world was startled by the sight of a lathe tool working with its nose at a dull red heat. Before this date it had always been supposed that such a high temperature would quite destroy the temper of the tool, but the exhibit was the precursor of a great revolution in the manufacture of tool steels, and this has largely been brought about by the introduction of special ferro-alloys, combined with more accurate knowledge of the effect of heat treatment on the forging. Up till the year 1870 the usual composition of tool steel then in use was one containing about 1·25 per

cent. carbon, which is well above the saturation point. But about that period Mushet invented his self-hardening steel, which required no quenching, and no tempering. The secret of this steel was the inclusion of tungsten, which has the facility of retaining the carbon as hardenite up to the temperature of 500° C. The composition would then be about carbon, 2 per cent.; manganese, 2 per cent.; tungsten, 5 to 10 per cent., and low sulphur and phosphorus. The steels were further fortified by the addition of 1 per cent. of chromium, and could cut medium hard steel at the rate of about 26 ft. per minute. The Taylor-White process added to the tungsten and chromium, raising them to 8 per cent. and 4 per cent. respectively, but they further claimed that the heat treatment had all the world to do with their product, alleging that between certain temperatures the metal deteriorated, but that above this limit the alloy picked up and finally ended by being better than ever. Such steels had a cutting rate of 60 ft. per minute. Modern high speed steels drop the carbon down below the saturation point, a good average being 0·65 per cent.; the chromium is kept at 3 per cent. in this country, though in U.S.A. it is raised to 7 per cent.; the tungsten is raised up to 20 per cent., whilst the silicon and manganese are kept down to under 0·2 per cent. Such a steel has the power of cutting medium hard steel at the rate of 100 ft. per minute.

The process of manufacture differs considerably from that of the earlier cutting steels, where it was a matter of great moment not to get them burnt. Now the great trouble is to get the temperature high enough without melting the steel. The materials are melted in crucibles up to 50 lbs. in content, and when cast the ingot is so hard that it has to be heated for from twenty-four to fifty hours at about 800° C. before it is ready for forgin[illegible] finished [illegible] and forgec [illegible] then annealed again at a temperature of 800° C., and once more forged to shape after being heated to 1000° C. It is then ground to the exact shape, and is ready for hardening, which is done by heating the nose until it begins to melt; from which temperature it is cooled in the air blast or quenched in oil from what time the temperature has fallen to 900° C.

Ironbark-tree, a popular name applied to several species of *Eucalyptus* for a very obvious reason. *E. resinifera*, the red-gum tree, receives the name most often; it attains a height of 150 to 200 ft. in Australia, and is noted for its hard bark, durable wood, and the gum which it exudes.

Iron Cross, a Prussian order, originally instituted in 1813 by Frederick William III. for distinguished services in war. The decoration consists of a Maltese cross of iron edged with silver. The grand cross of double the size is presented to the victor at a decisive battle. The order was revived by William I. on July 19, 1870, just before the outbreak of the Franco-Prussian War.

Iron Gates, a narrow passage, interrupted by rapids and rocky shoals in the course of the R. Danube below Orsova (Hungary). In 1890-96 the Hungarian government, at a cost of £800,000, succeeded in rendering the channel navigable by blasting and canalising.

Iron Mask, The Man in the, a mysterious figure of great romantic interest in French history. He was a political prisoner in the reign of Louis XIV., who, when travelling from one prison to another, always wore a mask. He finally died in the Bastille in 1703. He was a well-built man of more than average height, with musical tastes, and spoke French with a slight foreign accent. He was always most carefully guarded, and the mystery of his identity still remains an historical problem.

Etienne du Junca (*d* 1706), lieutenant of the Bastille, recorded in his official journals that on Sept. 18, 1698, Saint-Mars, the new governor, arrived at the prison from the Isles Ste. Marguérite, bringing with him in a litter a prisoner whom he had formerly held in custody at Pignerol. This prisoner always wore a black velvet mask, and his name was never told. He died on Nov. 19, 1703, and was buried in the parish cemetery of Saint Paul, his name being registered as 'M. de Marchiel.' The name actually recorded in the register was 'Marchioly.'

Stories spread about the prisoner even during his lifetime, and in 1745-46 it was asserted in *Mémoires Secrets pour servir à l'Histoire de Perse* that he was the Duke of Vermandois, the illegitimate son of Louis XIV. and Mlle. de la Vallière, and was imprisoned for life for having assaulted the grand dauphin. Public interest was further aroused by Mouhy's romance, *L'Homme au Masque de Fer*, and by the writings of Voltaire on the subject. Voltaire, under the head 'Ana' in *Questions sur l'encyclopédie*, asserted that the 'Mask' was a bastard elder brother of Louis XIV. and the son of Anne of Austria and Cardinal Mazarin. Voltaire, who had twice been im-

prisoned in the Bastille (1717 and 1726) and had conversed with De Bernaville, the successor of Saint-Mars, hinted that he could have told more had he wished. Abbé Soulavie, in *Mémoires de Maréchal Richelieu*, made out a case for a twin brother of Louis XIV., but this theory is historically untrue, though it appealed to Grimm, Zschokke, Fournier, and others.

A much more feasible conjecture is that the 'Mask' was Count Mattioli, a minister of the Duke of Mantua (*b.* 1640). He negotiated with Louis for the surrender of Casale, but the French king, discovering that his dealings were treacherous, had him kidnapped (1679) and conveyed to Pignerol. But there was no secrecy about Mattioli's imprisonment, and it appears more than probable that Mattioli died at Pignerol in 1694. Consult a letter by Heiss to the *Journal Encyclopédique*, 1770; Louis Dutens, *I*: [illegible] 1789; Rou[illegible] *toriques su[illegible] Fer*, 1801; [illegible] *au Masque* [illegible] Topin, *L'homme au Masque de Fer*, 1870: Th. Jung, *La Vérité sur le Masque de Fer*, 1873; and Barnes, *The Man of the Mask*, 1908.

The mysterious prisoner has also been identified with Eustache Dauger, imprisoned at Pignerol in July 1669. He was kept very closely. Saint-Mars, the governor, was ordered to threaten him with death if he talked of anything but his food and personal needs. Tales soon spread about the prisoner who told his guardian that he was obliged to tell 'contes jaunes pour me [illegible] d'eux.' In 1675 Dauger was [illegible] wait upon another prisoner, F[illegible] as valet, and on Fouquet's [illegible] in 1680, Dauger and La [illegible] another valet, were taken by [illegible] Mars to Exiles, where one [illegible] died in 1687. What evidence there is all goes to prove that the valet who died was La Rivière. In 1687 the remaining prisoner was transferred to the Bastille, every precaution being taken to guard him closely. There is no actual mention of the mask being used in Saint-Mars' correspondence with Louvois, but it was not an unusual thing for prisoners to be so disguised. Mr. Andrew Lang, in *The Valet's Tragedy* (1903), identified this Dauger with one Martin, the valet of Roux de Marsilly, a Huguenot intriguer in England. The French ambassador, Colbert, contrived to get Martin to go to France, where he might be arrested, in June 1669. Dauger was arrested in July. But, on the other hand, Martin if intriguing with his master must surely have been a Protestant, whereas Dauger was a Roman Catholic. It is no actual proof that because Dauger was employed as a valet in prison that he was a valet formerly. Barnes (*The Man of the Mask*, 1908) found Mr. Lang's theory untenable, and suggested that Dauger was really James de la Cloche, the natural son of Charles II., whom he in turn identifies with Pregnani, who was sent by Louis to negotiate with Charles in 1669. Mr. Lang proved subsequently that James de la Cloche was identical with 'Prince' James Stuardo, who died in August 1669 at Naples. As well as the works already mentioned, consult the correspondence between Saint-Mars and Louvois published in Delort's *Histoire de la détention des philosophes*, 1829.

Iron Mountain, a cap. of Dickinson co., Michigan, U.S.A., 46 m. N.W. of Escanaba. Has extensive iron mines which produce large quantities of first-class ore. Pop. (1910) 9216.

Ironsides, a nickname given to a man, particularly a soldier, who displayed great bravery. Edmund II., King of England, appears to have been the first in English history to receive the name. It was applied to Cromwell, and later to his cavalry, those 'God-fearing men,' whom he trained to iron discipline. They were the chief means of the parliamentary victories in the field.

Ironton, a cap. of Lawrence co., Ohio, U.S.A., on the Ohio R., 140 m. S.E. of Cincinnati. It occupies a central position in a productive mineral district, abounding in iron [illegible] and bituminous coal. It has iron [illegible]

Ironville, an [illegible] shire and Nottinghamshire, England, 3 m. S.E. of Alfreton. Has collieries and iron works. Pop. (1911) 3000.

Ironwood, the name given to the wood of many different trees on account of its hardness and durability, and is applied to various plants in different countries. A good timber-tree of India is *Mesua ferrea*, the Nagas or I., and is a species of Guttiferæ. *Sideroxylon inerme*, a Sapotaceous plant, is the Cape I.

Ironwood, a banking city of Gogebic co., Michigan, U.S.A., 6 m. S.W. of Bessemer. It has become noted by reason of the valuable deposits of magnetic iron ore and hematite which abound in the vicinity. Pop. (1910) 12,821.

Irony (Fr. *ironie*, Lat. *ironica*, Gk. *εἰρωνεία*, dissimulation), a form of ridicule in which statements, apparently accepted, are held up to scorn, saying one thing and meaning anot[illegible] may be found[illegible] the Jews, 'King?' (John xix. 14). Socrates used this mode of speech and raised it to a philosophical fine art. Among English writers Swift holds the palm for abundant and apt examples of I.

Iroquois, the name given by the French to one of the great confederations of the N. American Indians. The league was originally composed of five tribes, the Mohawks, Oneidas, Onondagoes, Senecas, and Cayugas, called the 'Five Nations,' and probably dating from the 16th century. In 1715 the Tuscaroras were admitted to the league, which was henceforth known as the 'Six Nations.' They were undoubtedly the strongest confederation of Indians in N. America, and numbered, at that time, about 11,650 of whom 2150 were picked warriors. Their original home seems to have been round the upper reaches of the river St. Lawrence, from which they moved south-westwards round the shores of Lakes Ontario, Huron, and Erie, and occupying the greater part of Upper Canada, the whole of New York State, and a large part of Pennsylvania, Ohio, and Michigan, while a section of them moving S. through Virginia and Tennessee to the Carolinas, was cut off from the main body by the hostile Algonquin tribes in Maryland and W. Virginia. The league was strong enough, not only to hold its own against such hostile tribes as the Hurons and Erics, but to extend their dominion over the Mohicans, the Nanticokes, Shawnees, Mississaugies, and other Algonquin tribes. In the border warfare with the French, the I. always sided with the English, while their bitter enemies, the Algonquins, fought for the French; they also fought for the English in the American War of Independence. They now number about 17,000 (or, including the allied Cherokees, 40,000) scattered throughout reservations in Canada, New York, Indian Territory, and Wisconsin. They have made con-
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a

objects of a very bright colour are seen on a dark ground they appear larger than they really are. This phenomenon is called I. Thus a white square on a black ground seems larger than an exactly equal black square on a white ground. The phenomenon differs very much in different people and even in the same person on different days.

Irrational Numbers, *see* SURDS.

Irrawaddy, *see* IRAWADI.

Irredenta, an Italian patriotic and political society which was particularly active immediately after 1878, when it had for its avowed object the liberation from foreign rule of all territories now outside the boundaries of Italy, in which, it was claimed (sometimes wrongly), the Italian tongue is spoken universally, *i.e.* S. Tyrol (Trentino) Görz, Istria, Trieste, Tessino, Nice, Corsica, Malta. It became of little importance after the French occupation of Tunis in 1881 when Italy formed the Triple Alliance with Germany and Austria.

Irrigation (Lat. *in* and *rigare*, to water) is the artificial application of water to land, as contrasted with watering by manual labour, the object in both cases being the increased fertility of the soil. When the rainfall of a district is regular and sufficient, there is no need for the practice, and where the rainfall is too abundant the opposite operation of drainage is necessary. Many districts in all parts of the world, however, have a scanty and irregular rainfall, and that the idea of supplementing and husbanding this by artificial means is not a new one is proved by the great antiquity of many I. works in India, Egypt, and China. Until the natural overflow of the Nile was used by cultivators to saturate the soil, Egypt must have been practically a desert. No trace of scientific I. is found in the sculptures and paintings of ancient Egypt, but in works of as early a date as 2000 B.C. the practice of baling up the water is represented. This method, undoubtedly the most primitive form of I., is still followed in many places in India. Among the simpler forms of water-raising machinery the following may be mentioned. A pole with a bucket at one end of a crossbeam and a counterpoise at the other (known in India as a 'denkli,' or 'paecottah,' in Egypt as a 'shadof') is largely used in the Nile district. Another apparatus consists of a shallow bucket suspended to strings between two men, who thus bale up the water. A rude water-wheel, consisting of earthen pots on an endless chain which runs round the wheel, is termed a 'sakya' in Egypt, and a 'harak' in Northern India. By means of this a pair of oxen can raise water as far as 18 ft., and keep from 5 to 12 acres irrigated. The 'churras' of India is a large leather bag, suspended to a rope which passes over a pulley and is

raised by a pair of bullocks which go up and down a slope equal in length to the depth of the well. I. which is effected by means of canals naturally depends on the discharge of the river in connection. When the river varies very much in volume, being very low in the dry season and flooded in the wet, a complete control of the water is necessary for the engineers, and the canal is therefore very costly. Such is the system on the Cuttack Canal, in connection with the Mahanadi R. The canals of Lombardy, on the other hand, are much less costly, as there is no great variation in the rivers on which the canals depend, the Ticino and Adda, owing to the restraining influence of Lakes Maggiore and Como. Thus the lakes of central Africa serve a somewhat similar purpose for the Nile system of I. The canal system of Northern India is the best in the world, and contains works of hydraulic engineering unequalled in any country. In the S. of India I. is always required for the rice and sugar-cane crops, though maize and millet can be grown without any such aid. Generally speaking, the other districts of India can manage without I. in good years. The periodical occurrence, about once every decade, of very severe drought, however, renders it (though not from a financial point of view) worth while to construct canals and irrigating works in order that assistance may be given when famine comes. In Sind 80 per cent. of the cultivable area is irrigated, and in the North-West Provinces 32 per cent. The Ganges Canal has a length of 445 m., and by means of extension and branches serves, among other places, Cawnpore, Aligarh, and Etawah. Among the other canals of India may be mentioned the Eastern Jumna Canal and the Agra Canal. In many parts of the United States I. is now carried on, as in Utah, Southern California, Kansas, Arizona, etc! In Egypt I. works have been carried out on a very large scale; the delta formed by joining Cairo, Rosetta, and Damietta is intersected by many channels, and much benefit has resulted. The great dam at Assouan, for the purpose of accumulating the Nile waters into a lake, will also have a very beneficial effect. The masonry dam at Alicante on the Monegre R. dates from 1759, and is said to have a capacity of 130,000,000 cubic ft. of water. In Italy, Spain, and in the S. of France, I. is extensively carried on. Experience has shown that for successful I., a thorough system of drainage in conjunction therewith is a necessity. This principle was overlooked at first in modern works, and the complete saturation of some districts in consequence had a prejudicial effect on their fertility. It is surmised that the Romans first introduced I. into this country, though it was little practised till the beginning of the 19th century. Generally speaking the water used in I. not only supplies the moisture so necessary for vegetation, but fertilises the soil by furnishing such mineral constituents as salts of potash and soda, sulphates of lime, soluble silica, etc. In proportion as the water is rich in these, the effect on the soil is similar to that produced by a dressing of bone-manure. Sewage water is unquestionably even more valuable for irrigating purposes than ordinary water, owing to the large amount of putrefied animal and vegetable matter contained therein. The drainage of many towns is thus turned to a profitable use at the present time. Various systems of I. are used to suit the special requirements of the case, one of the following being generally used in England: (1) Bedwork I.; this is the most effective system, but is also the most costly. (2) Catchwork I., in which the same water is used many times. (3) Subterraneous I., in which the water is drawn up through the soil to the surface. This is applicable only to level surfaces. (4) Warping I., in which the water is allowed to stand on the land until it has deposited the mud, etc., contained in it. The proper management of water-meadows requires great care and skill. There must be neither too much nor too little water; the flow must be regulated with exactitude, etc., etc. *See* W. Willcocks, *Egyptian Irrigation*, 1899; King's *Irrigation and Drainage*, 1899; H. M. Wilson, *Manual of Irrigation*, 1893; Buckley, *Irrigation Works in India*, 1905; Sir C. C. Scott Moncrieff, *Irrigation in Southern Europe*, 1868; etc.

Irritability in Plants, or Sensitiveness, is the manner in which they respond to the action of external forces such as (1) gravity, (2) light, (3) mechanical contact or pressure, (4) moisture, etc. Response to gravity is known as geotropism, and to light, heliotropism; and members are positively or negatively geotropic or heliotropic according as they grow towards or away from the force. Thus roots are negatively heliotropic and positively geotropic, and shoots are just the reverse. Instances of irritability to contact are the leaves of the sensitive plant and sundew; the stamen of *Berberis*, and the lobes of the stigma of the musk, which close together when touched. The response to presence of moisture is shown by growing roots, which are said to be positively hydrotropic.

Irsina, a tn. of Italy, formerly known as Montepeloso, 24 m. N.E. of Potenza in the prov. of Basilicata. Pop. 7600.

Irthlingborough, a par. and vil. in Northamptonshire, England, on the R. Nen, and 2 m. N.W. of Higham Ferrers. It has large ironstone quarries, and manufactures of boots and shoes. Pop. (1911) 4630.

Irtisch, or Irtysh, a riv. of Siberia, and a trib. of the Ob or Obi. It rises in the Altai Mts. of China, flows N.W. through Lake Zaisan, and joins the Ob 180 m. N. of Tobolsk. It is navigable during about eight months in the year for some 2000 m. Length 2500 m.

Irulas, a tribe, numbering in all about 86,000, dwelling in the Nilgiri hills, Arcot, the forests of S. India, and other places in the vicinity.

Irun, a tn. in the N.E. of Spain, in the prov. of Guipúzcoa, on the l. b. of the Bidassoa. It is a garrison town and the most important custom-house in Spain. There are hot springs, iron mines, and Pop. 10,000.

Irvine: 1. A par., royal burgh, and seapo on th incre the academy, a town hall, a statue to Burns, and is the birthplace of James Montgomery, the poet, and John Galt, the novelist. Elizabeth Buchan founded here her religious sect, the Buchanites, in 1779. I. exports iron, coal, and chemicals. There are engineering works, steam saw-mills, tanneries, iron and brass foundries. Pop. (1911) 10,180. 2. A riv. in Ayrshire, Scotland, which rises on the borders of Lanarkshire, flows W., dividing the districts of Cunningham and Kyle, and emptying itself into the Firth of Clyde. Length, 30 m.

Irving, Edward (1792-1834), a Scottish divine, born at Annan, Dumfriesshire. Having been educated at Edinburgh University, he became a master at Haddington (1810) and at Kirkcaldy (1812). He here taught Jane Welsh (afterwards Mrs. Carlyle), and fell in love with her, but he was already engaged to a Miss Martin, whose family prevented him from breaking off the engagement. In 1815 he obtained a licence to preach from the Church of Scotland, and four years later became an assistant to Dr. Chalmers, then in Glasgow. In 1822 I. became the minister of Cross Street Chapel, Hatton Garden, London, and his sermons became extraordinarily popular. In 1823 he published *For the Oracles of God* and *For Judgment to Come*, in which he declared his belief in the second personal advent of Jesus Christ. His popularity waned as his views developed. His belief in Christ's oneness with men in the attributes of humanity was misinterpreted, and he was accused of imputing sinfulness to Christ. In 1827 he translated a Spanish book, *The Coming of the Messiah in Majesty and Glory*, by Juan Josafat Ben Ezra. In 1830 he was tried before the London Presbytery, and two years later was deposed from the ministry. In conjunction with Henry Drummond he established the 'Holy Catholic Apostolic Chu[illegible] to t[illegible] his of the Apocalypse, and recognised orders of apostles, prophets, evangelists, and angels. I. became 'chief pastor' of this new sect's first church in Newman Street, but died shortly afterwards in Glasgow. His complete works were published in 5 vols. by Gavin Carlyle. Consult Carlyle's [illegible] ad biogra- [illegible] ilks (1854)

Irving, Sir Henry (1838-1905), an actor, whose original name was John Henry Brodribb, was the son of a Somersetshire tradesman, who afterwards settled in London. The boy's tastes always inclined to the stage, and, while he was a city clerk, he took lessons in elocution, fencing, and dancing, and devoted such leisure as he had to reading and studying plays and frequenting the theatres. At the age of eighteen he threw up his berth and secured an engagement in a stock company at Sunderland and, later, another at Edinburgh. He remained in the provinces, learning his art, until 1866, when he made his London début at the St. James's Theatre as Doricourt in *The Belle's Stratagem*. At the same theatre, in the following December, he played Petruchio to the Katherine of Ellen Terry. He was now firmly established as a London actor, but he did not achieve any marked success until 1870, when his performance of Digby Grant in *The Two Roses* made him popular. His Alfred Jingle in *Pickwick* added to his laurels, but he first became famous when he played in *The Bells* at the Lyceum (Nov. 25, 1871). In 1874 he played Hamlet for two hundred nights, and with this performance, around which a controversy arose as to his rendering, he rose to the head of his profession. Four years later he became manager of the Lyceum, and, with Ellen Terry as his leading lady, made it the first theatre in the country. His principal successes were Hamlet, Shylock, Benedick, Malvolio, Dr. Primrose (in *Olivia*), Landry (in

The Dead Heart), King Lear, Becket (in Tennyson's play), and Corporal Brewster (in *A Story of Waterloo*). I. was not a good man of business, his production expenses were heavy, his generosity unbounded, and when in 1898 his store of scenery was burnt down, he had to part with the lesseeship of the Lyceum, though he continued to act there until 1902. In the following year he played in *Dante* at Drury Lane, then went for the eighth time to America, made a tour in England, and in April 1905 revived *Becket* at Drury Lane, where he was enthusiastically received. He went on tour again, but his health was broken, and after a performance of *Becket* at Bradford on Oct. 13, he collapsed, and died a few hours later. He was buried in Westminster Abbey. I. was the greatest figure in the theatrical world of his day, head and shoulders above all his contemporaries. He rarely produced a modern play, being true to his dictum that the actor who wishes his fame to be handed down to posterity must enact the classic rôles. He had many defects, an awkward gait, and a habit of mouthing his words, which latter drawback was markedly less in his later years; but as against these he had dignity, a fine sense of comedy, and a great conception of tragedy. *He had, too, great intelligence, and* to all his productions, alike in his preparation of them as in his own performance, he brought his intellect to bear. It was his great ambition that acting should take its place among the recognised arts, and undoubtedly he had much to do with raising the status of his profession. He was the first actor to be offered a knighthood, and, after having declined it twelve years earlier, in 1895 he accepted the honour. There are several biographies, including those by Bram Stoker (1906) and Austin Brereton (1908).

Irving, Washington (1783-1859), an author, born in New York of a father who claimed a Scottish descent and of a Cornish mother. He was given but an indifferent education, after which, for his health's sake, he visited Europe, before settling down in the city of his birth. After some essays in the monthly periodical, *Salmagundi*, he published in 1809 a *History of New York, by Diedrich Knickerbocker*, an admirable burlesque. In 1815 he came to England, where he remained for many years, and he soon became dependant on his pen for a livelihood. His *Sketch-Book* appeared in 1820, and was well received on both sides of the Atlantic, his 'Rip Van Winkle' and 'Westminster Abbey' being singled out for especial praise; this was followed by *Bracebridge Hall*, 1822, and *Tales of a Traveller*, 1824. As the result of a sojourn in Spain he wrote *The Life of Columbus*, 1828; *The Conquest of Granada*, 1829; *The Alhambra*, 1832, and other works, which were very popular. I. returned to New York in 1832, where he was enthusiastically welcomed. His later



WASHINGTON IRVING

books include [illegible] smith, Mahome[illegible] and *Recollectio[illegible] Newstead Abbey*. He had the gift of style in no small degree, and in all his work there is charm, but he is seen at his best in his shorter efforts. His fame rests mainly on the *Sketch-Book*. There is a biography by his nephew, P. M. Irving (1862-64).

Irvingites, *see* IRVING, EDWARD.

Irvington, a tn. of Essex co., New Jersey, U.S.A., 3 m. S.W. of Newark. It manufs. tools, ropes, steel, wallpapers, etc., and has smelting-works. Pop. (1910) 11,877.

Irwell, a riv. of Lancashire, England, rising 2 m. S. of Burnley, and flowing in a tortuous course of 40 m., through Bacup, Rawtenstall, Bury, and Manchester, to the Mersey at Irlam. The Manchester Ship Canal is now included in the lower part of its course. Length 40 m.

Isaac, the only son of Abraham and Sarah, born in their old age (Gen. xvii. 17). For the story of his being offered as a sacrifice and the miraculous intervention of Jehovah, *see*

Gen. xxiii. 'When forty years old he married his cousin Rebecca, who bore him twin sons, Esau and Jacob. He seems to have lived a peaceful, uneventful, nomadic life, and to have died in Hebron at the age of one hundred and eighty. *See* Abraham, *also* Rawlinson's *Isaac and Jacob* (Men of the Bible series, 1890).

Isaac I. (Comnenus), an emperor of Constantinople (1057-59), the first of the house of Commeni. He had served in the army, and on the deposition of Michael VI. was declared emperor by the soldiers (1057). He repaired the finances, forced the clergy to contribute to the state revenue, and repelled the attacks of the Hungarians and Petchenegs in the N. In 1059, being overcome with a serious illness, he abdicated and retired to the monastery of Studion where he died in 1061. His *Scholia* and other works on Homer are extant.

Isaac II. (Angelus), an emperor of Constantinople (1185-95 and 1203-4), succeeded Andronicus I. His reign was disturbed by continuous rebellions. In 1197 his brother Alexius seized the throne by force and I. was blinded and imprisoned. Eight years later he was restored to the throne, but was too weak, mentally and physically, to rule, and died shortly after Mourzouphes, *his general, usurped the* throne. He was a weak and licentious prince, and by squandering public money acquired a temporary reputation for generosity.

Isaacs, Sir Rufus (*b.* 1860), an English lawyer and politician, educated at University College School, London, and on the continent; he was a member of the Stock Exchange, which he abandoned for the bar, to which he was called in 1887; his knowledge of the city brought him forward almost immediately in company actions, and within a few years he had one of the largest practices at the bar; he took silk in 1898. In 1904 he was elected Liberal member for Reading, for which he still sits. In 1910 he became Solicitor-General in Mr. Asquith's ministry (1910), and was knighted, and Attorney-General the same year on Sir Samuel Evans's elevation to the presidency of the Admiralty, Probate, and Divorce Court. In 1912 he became a member of the Cabinet.

Isabela: 1. A N.E. coast prov. of Luzon, Philippines, area 5394 sq. m. It is mountainous and covered with forests. Coffee, sugar-cane, rice, maize,

Negros Occidental prov., Philippines, 37 m. S. of Bacolod. Pop. 13,000.

3. A vil. and port on the N. coast of the republic of Haiti, W. Indies, and 36 m. W.N.W. of Santiago. Founded by Columbus (1493), the first European settlement in the New World. 4. A tn. on the N.W. coast of Porto Rico, W. Indies, 10 m. N.E. of Aguadilla in the prov. of that name. Pop. 15,000.

Isabella (1292-1358), the daughter of Philip IV. of France, and wife of Edward II. of England, whom she married in 1308. She sided with the barons against Edward and the Despencers, and in 1326, having been sent over to France to settle a dispute between her husband and her brother, the French king, she collected forces, and, being joined by Roger Mortimer, her lover, and other barons, attacked and defeated the king, who was probably put to a cruel death. She and Mortimer ruled supreme for a time, but in 1330 Edward III. had Mortimer executed, and imprisoned his mother in Castle Rising for the rest of her life.

Isabella (1451-1504), Queen of Castile and Leon (1474), wife of Ferdinand V. of Aragon. Her father and mother were both descendants of John of Gaunt of England. She sympathised with Columbus's ambitions.

Isabella II. (1833-70), born in Madrid in 1830, was the eldest daughter of Ferdinand VII. She was proclaimed Queen of Spain at the age of three, on the death of her father, who had persuaded the Cortes to repeal the Salic law. Her title was disputed by Ferdinand Don Carlos, and her reign was one continual succession of quarrels and intrigues. In 1846 she married her cousin, Prince Francisco de Assisi de Bourbon (1822-1902), from whom she separated in 1870. In 1868 she had been forced into exile, and abdicated two years later in favour of her son, Alphonso XII.

Isabey, Jean Baptiste (1767-1855), a French portrait painter, born at Nancy. He studied under Dumond and David, and was employed at Versailles, where he painted the portraits of most of the celebrities of his time. He painted many of the revolutionaries, including Barrère and Saint-Just, and was patronised in turn by Napoleon and Josephine, and by the Bourbon sovereigns. Apart from portraits, his best known works are 'Isabey's Boat,' 1796; and 'Review of Troops by the First Consul.' Consult his *Life* by M. E. Taigny (1859).

Isæus, an Attic orator, son of Diagoras, born at Chalcis in Eubœa. He lived between 420 and 350 B.C., and was the fifth of the ten Attic orators. He was a pupil of Isocrates, and wrote judicial orations for other

people, and founded a school of rhetoric at Athens, in which Demosthenes is supposed to have been his pupil. Eleven only of his speeches are extant. They throw an important light on Attic law. *See* Jebb's *Attic Oratory from Antiphon to Isæus*, 1893; Wyse's *Speeches of Isæus*, 1905.

Isaiah, son of Amoz, was the greatest and most important of the early Jewish prophets. It is evident from his writings that he was of high social rank, and he was, moreover, an inhabitant of Jerusalem. We learn from ch. viii. 3 that he was married and the father of a family. The heading of the book which bears his name (i. 1) tells us that he prophesied from the year of King Uzziah's death (740 B.C.) through the reigns of Jotham, Ahaz, and Hezekiah, and a late tradition (*cf.* Heb. xi. 37) tells us that in the days of Manasseh he suffered death by being sawn asunder, but no mention of such a fate is to be found in the Book of Kings. The account of the vision by which the prophet was called to his work is given in ch. vi. The book which bears his name has during the last century been the subject of much discussion. Aben-Ezra was the first to call attention to the fact that the book was capable of sub-division, and later critics have carried on the work of sub-division most vigorously. The chief break comes after ch. xxxix. Chapters xl. to lxvi. contain many passages that conclusively prove them to be post-exilic. The people are addressed as those who have already suffered the punishment of their sins and who are now in exile. Further, in the discourse concerning the righteousness of Yahweh, which begins at ch. xli., Cyrus, who reigned more than a century after the death of I., is adduced as a sign that Yahweh will fulfil his promises in the near future. This latter section is itself generally divided into two parts, viz. xl.-lv. and lvi.-lxvi., known respectively as Deutero-Isaiah and Trito-Isaiah, of which the second is the earlier in date. The question of the subdivision of the earlier part of the work is more difficult and complicated. Here, again, certain portions such as xiii.-xiv. 23, xxiv.-xxvii., etc., are shown to be post-exilic by the fact that they presuppose the conditions of later times. It would be impossible here to speak of the more elaborate sub-divisions, such as those of Cheyne (*Ency. Biblica*, etc.), but most scholars are agreed in making a four-fold division of the prophecies actually attributed to I. These divisions correspond to four invasions of Palestine. The first is that of Tiglath-Pileser, prophesied in chs. ii. to the beginning of x., and possibly also in certain later parts. The second, that of Shalmanezer and Sennacherib, ch. xxviii., contains the first promises of the coming prince whom later ages have identified with the Messiah. There is much doubt as to the extent of the third invasion, that of Sargon, whether or no it included Judah. Driver, Robertson Smith, and others hold that it did not, and assign to this period xx.-xxi. 10; Cheyne, Sayce, and others hold the opposite view, and give chs. x. 5-34 and xxii. To the last invasion, that of Sennacherib, belong most of the chapters from xx.-xxxv. *See* Ewald's *Prophets of the Old Testament;* Driver's, *Isaiah*, 1888; G. A. Smith's commentary in *The Expositor's Bible;* and works by Dillerman, Delitzsch, Cheyne, etc.

Isambert, François André (1792-1857), a French lawyer, born at Aunay, Sure-et-Loire. In 1818 he began his career as a lawyer in the Court of Cassation, and the opinions which he held brought him into continual conflict with the government. About this time, also, he took an active interest in the slaves of the West Indies. In 1830 he was appointed councillor of the Court of Cassation, and continued to represent the Opposition party in politics. Among his chief works may be mentioned: *Recueil Général des anciennes lois françaises*, 1823-33; *Tableau historique des progrès du droit public et du droit des gens Jusqu'au XIX^e Siècle*, 1832; *Histoire de Justinien*, 1856.

Isandlwana, or Isandula, an isolated kopje in Zululand, 60 m. W.S.W. of Ulundi, S. Africa. Here, during the Zulu War, Colonel Durnford's column was surprised, on Jan. 22, 1879, by 20,000 Zulus under Cetewayo, and annihilated, Colonels Durnford and Pulleine being killed.

Isar, a river of Bavaria, rising in the Tyrolese Alps and flowing N. and N.E., passing Munich. It enters the Danube opposite Deggendorf. Length 180 m.

Isauria, an ancient dist. in Asia Minor, bounded by Pisidia, Lycaonia, and Cilicia. In Roman times, the inhabitants were a barbarous race and daring robbers. They were overcome by P. Servilius in 78 B.C., but soon rebelled and were a constant source of trouble. The rebel, Trebellianus, in the 3rd century A.D., assumed the title of emperor, but was overpowered and executed. The Isauri are said to have been effectually subjugated in the reign of Justinian in the 4th century. I. have had the honour of producing two emperors, Zeno (474-491 A.D.) and Leo III. (718-741). *See* W. M. Ramsay, *Historical Geography of Asia Minor*, 1904.

Isbarta (ancient *Baris*), a tn. of Asia Minor, 180 m. E. of Smyrna. It is well supplied with water and has many large gardens. A destructive earthquake occurred here in 1889. Carpet weaving is the chief industry. Pop. 20,000.

Ischia (ancient *Ænaria*), a very fertile and picturesque island in the Bay of Naples, Italy. In the centre is an extinct volcano, from which the surface gradually slopes all around towards the sea. Corn, fruit, and wine are grown; straw plaiting and fishing are carried on. The island was disturbed by earthquake shock in 474 B.C., 92 B.C., 1302, and 1883 A.D. The chief towns are I., the capital, and Casamicciola, visited for its hot springs. Pop. 28,000.

Ischl, or Bad Ischl, a magnificently situated inland watering-place of Upper Austria, 30 m. E.S.E. of Salzburg. Chiefly known for its medical baths and as the summer residence of the Austrian imperial family. Important industry in salt. Pop. (1910) 10,188.

Iseghem, a tn. of W. Flanders, Belgium, 24 m. S.W. of Bruges. Manufs. textiles. Pop. about 12,000.

Iselin, Charles Oliver (*b.* 1858), a United States banker and yachtsman, born in New York. Well known in the yachting world as the head of the syndicate which won the America Cup in 1895 with the cutter *Defender* against *Valkyrie III.* owned by Lord Dunraven. In Oct. 1899, he was again, with Mr. J. Pierpont-Morgan, winner of the cup, the *Columbia* beating *Shamrock I.*, owned by Sir Thomas Lipton. In 1901 the *Columbia* was again successful against *Shamrock II.*, and in Aug. and Sept. 1903 Mr. Iselin was part owner of the *Reliance*, which defeated *Shamrock III.*, also owned by Sir T. Lipton.

Iseo, Lago d', a picturesque lake of Italy, 15 m. long and about 2¼ m. broad, at the foot of the Alps, between Bergamo and Brescia. It is traversed by the R. Oglio.

Iseran, a pass in the Alps (9085 ft.), connecting valleys of the Arc and the Isère. The neighbouring peak, Mt. Grand Paradis, was for years confused with Mt. Iseran, owing to the fact that the Montagnards call *mount* not a peak, but a series of pastures, and that the pastures here were called Mt. Iseran.

Isère: 1. A dept. in the S.E. of France, between the Rhone and Savoy, formed out of the ancient prov. of Dauphiné. The southern portion is very mountainous, the highest point being the Aiguille du Midi (13,075 ft.) which rises on the S.E. frontier. The N. and W. of the department is formed of plateaux broken by hills and valleys. The R. Rhone surrounds it on every side but the S., while its tributary, the I., flows through it. The department is divided into four arrondissements, Grenoble, St. Marcellin, La Tour de Pin, and Vienne. The capital is Grenoble. Silver, lead, coal, and iron are mined; slate, stone, and marble quarried: and gloves, silk, paper, and cement manufactured. Green Chartreuse was manufactured in the monastery 14 m. N. of Grenoble. Area 3179 sq. m. Pop. 555,911. 2. A river, rises in the Alps, and, winding W. and S.W. for 180 m. (100 m. of which are navigable) through the departments of Savoie, I., and Drôme, joins the Rhone a few miles above Valence.

Isergebirge, a part of the Sudetic Mts., and a continuation of the Riesengebirge, on the borders of Bohemia and Prussian Silesia. Tafelfichte (3680 ft.) is the highest point.

Iserlohn, a tn. of Westphalia, Prussia, 36 m. by rail S.E. of Dortmund. It has manufactures of cutlery, bronze articles, and other metals, furniture, and chemicals. Pop. 31,294.

Isernia (ancient *Æsernia*), a tn. of Italy, prov. of Campobasso, 60 m. N.N.E. of Naples. Pottery and textiles are manufactured. I. has remains of great antiquity. Pop. 9500.

Ishim: 1. A tn. of Siberia, 120 m. S.S.E of Tobolsk, on the Ishim R. It has an annual fair held in December, and there are tallow-melting works, spinning and weaving mills. Pop. about 7000. 2. A river of Siberia, rising in Akmolinsk and flowing through fertile districts for a distance of 350 m. It joins the Irtysh S.E. of Tobolsk. Its total length is 700 m.

Ishmael, the son of Abraham by Hagar, the Egyptian handmaiden of his wife, Sarah. On account of Sarah's jealousy of his mother, I., at the age of fifteen, was expelled from his father's house and driven into the wilderness, when a guardian angel preserved their lives and directed them to water (Gen. xxi. 19-21). The boy grew up into a famous archer, married an Egyptian woman, and became the ancestor of a great nation. Mohammed claimed descent from I., and Mohammedans assert that he is buried with his mother in the Kaaba at Mecca. *Cf.* Genesis xvi. 12.

Ishogo, a Bantu tribe, close neighbours of the Ashangos, dwelling in the mountains S. of the Ogowe in French Equatorial Africa. They are of fine physique, and occupy themselves principally in agricultural pursuits.

Ishpeming, a city of Marquette co., Mich., U.S.A. It is supported chiefly

by its extensive iron mines, which produce the best quality ore. Gold and marble are also found in the neighbourhood. It also has smelting furnaces, powder works, and engineering shops, and manufactures dynamite, boilers, etc. Pop. (1910) 12,448.

Isidore of Charax, a Persian writer, supposed to have lived in the 1st century A.D. He is remembered for his work entitled *Parthian Itinerary*, containing a list of the eighteen provinces of Parthia, with their chief, and the distance of one town from another.

Isidore of Gaza is mentioned by Photius, and has been confused with Isidor of Alexandria. There is little known of him beyond the fact that he was one of those who went to the Persian Court with Damasius when Justinian closed the schools in Athens in 529. Suetonius mentions an Isidore who was a Cynic philosopher and said to have ridiculed Nero in public, but there is some difficulty in identifying him.

Isidore of Pelusium, Saint (*c.* 370-*c.* 450), an abbot of the monastery of Pelusium, and was probably born at Alexandria. He is chiefly remembered by his letters, numbering in all about 2000, and containing many explanations of passages from Scripture. They are collected in J. Migne's *Patrologia Græca*, *1857-66*. *See* P. B. Glück, *Isidori Summa Doctrina Moralis*, 1848.

Isidore of Seville, or Isidorus Hispalensis (*c.* 560-636), Bishop of Seville and Spanish encyclopædist. He was educated in a monastery and became distinguished in his controversies with the Arians. In 599 he was chosen Bishop of Seville, and became famous for his powers of administration and his learning in science, history, and theology. He was present at the councils of Toledo (610) and Seville (619), and it was his influence that altered the organisation of the Church in Spain. He wrote an encyclopædia from his own knowledge; it included law, science, history, and theology, and helped to keep alive some knowledge of learning through the dark ages. Among his works are: *Originum seu etymologiarum libri xx.*, and a history of the Goths and Vandals.

Isidorian Decretals, or False Decretals, a spurious amplification of the canonical collection in use in the Church of Spain in the 8th century. The author assumed the name of Isidore, taking in addition the name of Mercator. The collection is divided into three parts. The first contains seventy letters (forged) attributed to various popes. The second contains a collection of councils and the forged 'Donation of Constantine.' The third a series of decretals from the Nicæan council. The object of the forger was to reform the canon law. They were very skilfully composed, and were the cause of violent controversy.

Isinglass, a variety of gelatin, obtained from the dried swimming-bladders of different fishes. It is used principally for culinary purposes and for clarifying beer and wine, and also for making cement and plaster. It is manufactured chiefly in Russia, Canada, Brazil, and the Indies.

Isis, an ancient Egyptian deity, the goddess of fecundity, identified in Greek mythology with Ceres. She was the wife of Osiris and the mother of Horus, and daughter of Nut or the Sky. Her story is one of great beauty and tragedy, and is briefly as follows: Osiris, King of Egypt, was the victim of a conspiracy led by his brother Set, the god of evil. Osiris was entrapped in a chest which was thrown into the Nile, carried away and finally thrown up on the seashore. Isis, after long search, found the chest, mourned over it, and hiding it went to urge Horus to avenge his father. Meanwhile Set, coming upon the chest, cut the body of Osiris into fourteen pieces and had them dispersed over the land. Isis then gave herself up to travelling from place to place, building a temple over each fragment of her husband's body as she found it. Osiris became lord of the other world, and appeared to his son Horus and taught him the use of arms. Horus defeated Set and took him prisoner, but being enraged because his mother gave Set his freedom, he cut off her head. Thoth replaced it in the form of the head of a cow. The outstretched wings of Isis are frequently found in Egyptian decoration, she is often represented with the face of a woman and the horns of a cow, sometimes with the lotus on her head, and at other times hooded—the latter representing incidents in her career.

Isis, a name applied by the Oxonians to the upper part of the R. Thames, England. This name was used as early as 1607, for Camden mentions it. The popular belief that the name Thames is derived from the composition of Thame and Isis is incorrect.

Iskanderun, another name for Alexandretta (*q.v.*).

Iskelib, a tn. of Asia Minor, near the Kizil-Irmak, in the vilayet of Angora, 100 m. N.E. of Angora. Has an old castle, and there are salt-springs S. of the town. Pop. about 15,000.

Isla, José Francisco de (1703-81), a Spanish satirist, born at Villa Vidanes,

Leon. He was a Jesuit priest and a famous preacher. Disgusted by the ignorance of the Spanish priesthood, he held them up to contempt and ridicule, with a wit and humour that was irresistible, in a novel entitled *Historia del famoso predicador fray Gerundio de Campazas*. The book was prohibited (1760) in consequence of the storm of protests raised by the victims, but he published a second part in 1768 unknown to his superiors. He also translated *Gil Blas* into Spanish (1787; 2nd ed. 1878). In 1850 his *Obras Escogidas* came out as vol. xv. of the *Biblioteca de Autores Españoles*. His other works were unimportant and consisted mainly of satires on the custom and ceremonies of the Spanish Church. With the other Jesuits he was banished from Spain in 1767, and went to Bologna where he lived until his death. *See* Bernard Gaudeau, *Les Prêcheurs Burlesques en Espagne au XVIII^e Siècle* (Paris), 1891.

Islamabad, a tn. in Kashmir, India, on the R. Jhelum, the original capital of Kashmir, but now of secondary importance. It possesses an old summer palace, a beautiful mosque, and a shrine. Close to it are the sulphur springs of Anant Nag falling into a reservoir full of sacred fish. Chintz, cotton, and woollen goods are manufactured, and the famous Kashmir shawls. Pop. 9500.

Islamism, virtually the Mohammedan faith (*see* MOHAMMEDANISM). The term is used in a broader sense to refer to the general features—philosophical, religious, artistic, and social—of Mohammedan culture, *e.g.* in Nietzsche's *Antichrist*; Renan's lecture, *Islamism and Science* (pub. English trans.), 1896, etc.

Island (Old Eng. *ieg*, isle, and *land*), a piece of land surrounded by water. The largest Is. of the world, the great mass of Europe, Asia, and Africa, N. and S. America, and Australia, are termed continents. Greenland, the next in size (less than one-fourth the size of Australia), is possibly an ice-bound archipelago. New Guinea has an area of 303,000 sq. m., and Borneo (284,000 sq. m.), Madagascar (227,000 sq. m.), and Sumatra (162,000 sq. m.) rank next; Great Britain comes sixth on the list, with an area of 83,700 sq. m. Is. may be divided into two classes, continental and oceanic. The former are the result of the submergence of a coastal range, or may have been formed by the sea cutting through the neck of a peninsula, or the eating back of an inlet until a piece of the land is cut off. In all cases, except New Zealand and Madagascar, these Is. are connected with the mainland by a continental shelf, and their flora and fauna are similar to those of the adjacent continent; for example, the Is. of the W. coast of Scotland bear this relation to Great Britain, which itself bears the same relation to the continent of Europe. They may be classed according to their structure, if they be solitary, as Iceland; in chains, like Japan; or in archipelagoes, as in the Ægean. Oceanic Is. rise abruptly from great depths, and show no geological continuity with the mainland. They are due to various causes, and may be either 'volcanic,' due to the gradual rising above the waves of submerged mountain peaks, or to a violent volcanic upheaval of the ocean-bed; or 'coral Is.,' due to the gradual agglomeration by the action of the water, or the active building of the corals themselves, of the skeletons of marine organisms (*see* CORAL). Numerous submarine Is. have been discovered which only require volcanic action or the deposition of sediment to rise above the surface of the ocean. *See* GEOGRAPHICAL DISTRIBUTION.

Islands, Bay of, a bay on the W. coast of Newfoundland, in the Gulf of St. Lawrence, forming an estuary at the mouth of the Humber R. It is famous for its beautiful scenery, and is within easy reach of good fishing and hunting.

Island Scots, a body of Highlanders, descendants of Somerled, Thane of Argyll and Lord of the Isles, who settled in Ireland, establishing themselves in the mountains of Ulster, plundering the surrounding country. The Earl of Sussex made an attempt to subdue these Macdonalds (MacDonnells), but failed. They were finally defeated by their former ally, Shane O'Neill, who took their leader, Sorley Boy MacDonnell, prisoner. The English restored the MacDonnells, and Shane O'Neill was slain by one of the Highlanders in a brawl (1567).

Islandshire, a part of Northumberland, England. It was at one time part of the county of Durham; it includes the Farne Is. and some districts near Berwick-on-Tweed.

Islay, an island of the Inner Hebrides, Argyllshire, Scotland, 13 m. W. of Kintyre, separated from Jura by the Sound of I. Area 150,400 acres, or 235 sq. m. The lochs of Gruinart and Indal penetrate so deeply that the western portion is almost separated and known as the Rhinns of Islay. The highest summit is Ben Bheigeir (1609 ft.). Fishing is very good in the streams and lakes; dairy-farming and whisky distilling are the chief industries. The chief town is Bowmore. I. was once the

chief seat of the 'Lords of the Isles,' but the Campbells ultimately gained the island about 1616. Pop. (1911) 6387.

Isle de Bourbon, *see* RÉUNION.

Isle Jourdain, a tn. in the dept. of Gers, France, on the Save, 18 m. W. of Toulouse. It has great horse and cattle fairs and considerable trade in agricultural produce and wine. It is an old town, and contains an ancient church with a tower dating from the 10th century. Pop. 4500.

Isle of Dogs, a dist. of London, England, on the N. bank of the Thames. It forms a peninsula opposite Greenwich, being cut off by the canal of the West India Docks. It forms part of the borough of Poplar, and is a very poor district, made up of docks and riverside works.

Isle of France, *see* MAURITIUS.

Isle of Man, *see* MAN, ISLE OF.

Isle of Wight, *see* WIGHT, ISLE OF.

Isles, Lord of the, a Scottish title claimed by the descendants of Somerled (*d.* 1164), Thane of Argyll. Somerled was a descendant of Colla-Uais of Ireland. He succeeded in driving the Norsemen from Argyll and the Western Isles, establishing himself as an independent prince; his lands included Kintyre and the Isle of Man. His descendants maintained themselves in the same manner. In 1411 the Donald of the Isles, who had become very powerful by his fleet and good-sized army, claimed the earldom of Ross through his wife, including the Isle of Skye. The Earl of Mar, with an army of Lowlanders, marched against him, and Donald was defeated with great loss at the battle of Harlaw in Aberdeen. The earldom then reverted to the crown (1424), but was restored by James I. to the heiress, mother of Alexander Macdonald, third Lord of the Isles and thus eleventh Earl of Ross. John Macdonald, fourth Lord, committed treason, and was deprived of his earldom (1469). In 1502 Donald Dhu, grandson of John, was proclaimed king of the Isles, and led a revolt against James IV. He was defeated and fled to Ireland. Since 1469 the title of 'Lord of the Isles' has belonged to the Prince of Wales. The title 'Lady of the Isles' is sometim[illegible] plied to the wife of Baron Macd[illegible] descendant of a half-brother o[illegible] of the Isles. It is, however, a [illegible] of keen controversy. The ho[illegible] Somerled survives in two branches, that of Baron Macdonald of the Isles and the Macdonnells, Earls of Antrim in Ireland.

Isles of the Blest, or Fortunate Isles, a mythical group of islands, on the edge of the Western Ocean, peopled by the blessed mortals who were 'never to die.' Several nations seem to have believed in this myth. Tradition places the Amenet (pleasant place of the dead) of the early Egyptians somewhere in the Western Ocean; the Babylonians believed in an isle of the blessed encircled by four rivers. The Greek belief expressed by Homer appears to connect them with the Elysian Fields. Plato describes in his *Timæus* how Solon was told by Egyptian priests of a country larger than Asia Minor, which was overwhelmed by the sea, this was known as 'Atlantis,' and the surviving islands were termed the Fortunate Isles. A very early tradition suggests that an unrecorded voyage to the Canary Isles and Madeira may have gained these places this mythical name. The Celtic Avalon of King Arthur and St. Brendan's Is. were represented as blest with summer all the year round, and 'therefore fortunate.' There are also legends of Brazil and of Lyonesse off Cornwall and many others.

Isle-sur-la-Sorgue, a tn. in the Vaucluse dept. of France, 12 m. E. of Avignon, picturesquely situated on the Sorgue, a tributary of the Rhone. The inhabitants are chiefly engaged in the textile industry. Pop. 6500.

Isleworth, a tn. and dist. in Middlesex, England. Situated in the fertile valley of the Thames, it is full of flourishing market gardens and nurseries. It also contains Syon House, a seat of the Duke of Northumberland. The only manufacture of importance is soap. Pop. (1911), including Heston, 43,316.

Islington, a northern metropolitan bor. of the co. of London, England. It includes Holloway, Highbury, Kingsland, Barnsbury, and Canonbury, all retaining the names of ancient manors, the latter belonging as early as the 13th century to the priory of St. Bartholomew, Smithfield, the name still given to the great metropolitan cattle market. The two prisons of Pentonville (1842) and Hollow[illegible]strict, also t[illegible] 1862). Other Nor[illegible]thern C[illegible]thern [illegible] Hos[illegible]pital, [illegible]e London School of [illegible] John's Hall, Highbury. [illegible] is divided into four [illegible] divisions, each returning one member. Pop. (1911) 327,423.

Islington, John Dickson-Poynder, Lord (*b.* 1866), the sixth baronet of an old Wiltshire family of Hartham Park, Corsham. He sat as Unionist member for the Chippenham division of Wiltshire from 1892-1910, but took an independent line as a strong free

trader. He was a member of the London County Council from 1898-1904. He served in the S. African War in 1900. In 1910 he was appointed governor of New Zealand, succeeding Lord Plunket. In 1912 he was made chairman of the Indian Public Service Commission. He is also a D.S.O., P.C., and K.C.M.G. He was created a baron in 1910.

Islip, a tn. of U.S.A., Suffolk co., New York, on Long Island, and Great South Bay, a favourite summer resort. It is 41 m. E. of Brooklyn, and the headquarters of several sporting clubs. Has fishing and fruit-canning industries. Pop. (1910) 18,346.

Islip, Simon (*d.* 1366), an English prelate, educated at Oxford, probably born at Islip on the Cherwell, near Oxford. He was attached to the service of Edward III., and was appointed Archbishop of Canterbury by the king (consecrated 1349). I. laboured to remedy the evils caused by the ravages of the 'Black Death,' and to enforce discipline. *See* Hook, *Archbishops of Canterbury*, iv.; Wharton, *Anglia Sacra*, i.; Le Neve, *Fasti . . .* ii.; Lewis, *Life of Wycliffe*.

Ismail, or Ismailia: 1. A tn. of Bessarabia, S.W. Russia, on the N. arm of the Danube, 120 m. S.W. of Odessa. It is the seat of an active export trade, being especially noted for its fruit. It was at one time a Turkish fortress, but was taken by the Russian general, Suvaroff, in 1790, and finally ceded to Russia in 1878. Pop. about 34,000. 2. A tn. of Egypt, on the Suez Canal, and connected by rail with Suez and Cairo. Has fine public squares and gardens. Pop. about 10,000.

Ismailis, a Mohammedan sect, who belonged to the Shi'tes. They therefore believed that the imāmate was vested in the descendants of Mohammed alone, and so of Ali, the prophet's son-in-law and chosen minister. Their name was derived from Isma'il ibn Ja'far, whom they deemed the seventh and last of the Imāms. The sect would long ago have died out had not a certain 'Abdallah ibn Maimūn arisen (*c.* 870 A.D.), a Persian sceptic and juggler, who traded on the Isma'ilites' Messianic belief in a 'Hidden Imām' or 'Mahdi.' The converts of Abdallah learnt to despise all positive religions and outward observances, and to re[illegible] and [illegible] alle[illegible] peas[illegible] self [illegible] the [illegible] who were the cause of ceaseless bloodshed and rebellions during the two centuries following. The Fatimite dynasty of Califs and Mahdis sprang from Obeidallah, Grand Master of the Isma'ilites. This man was descended from Abdallah, and claimed to be a scion from the stock of Fatima, the prophet's daughter.

Ismail Pasha (1830-95), a khedive of Egypt, will be chiefly remembered in history as the man who by his senseless expenditures opened an easy avenue to European intervention in Egyptian affairs; yet he discovered to his backward people the worth of a good education and of many Western ideas. In 1863 he became viceroy, having successfully crushed a formidable revolt in the Sudan. In 1867 he persuaded the Turkish sultan to recognise him as khedive, and four years later became virtually independent. During his reign, he enriched many an unscrupulous financier; for he built palaces and theatres, founded a sugar industry, re-organised the customs, etc., all with foreign credit. By 1874, the year of the annexation of Darfur, he had piled up a national debt of over £100,000,000, and when he sold his Suez Canal shares to Great Britain (1875), he practically invited her to come to his financial rescue. The final result of foreign interference was the abdication of Ismail in 1879. The remainder of his life was passed in exile.

Ismay, Thomas Henry (1837-99), an English shipowner, born at Cumberland. He started a shipbuilding business [illegible] serving [illegible] ship, and Australia into partnership with Wm. Imrie, and formed the Oceanic Steamship Company. Three years later they added the American trade, and in 1871 began running [illegible] tween Liverp[illegible] afterwards I. White Star Line, and a director of many other industrial enterprises. He married Margaret, daughter of Luke Bruce, and had three sons and four daughters.

Ismene, the daughter of Œdipus and Jocasta. She wished to share the punishment of Antigone, her sister, for giving burial to Polynices.

Ismid, or **Isnikmid** (ancient *Nicomedia*), a tn. in Asia Minor, situated at the head of the gulf of the same name. It is connected by rail with Haidar Pasha, Angora, Konia, and Smyrna, and contains a fine 16th century mosque. It is the seat of a Greek metropolitan, and an Armenian archbishop, and was formerly the ancient seat of the kings of Bithynia, but it now retains little of its former dignity. Its port, Darijeh, is about

3¼ m. distant, and here the Anatolian Railway Company have built docks and a quay. Pop. about 20,000, consisting of 9500 Moslems, 8000 Christians, and 2500 Jews.

Isobars (from Gk. ἴσος, equal, and βάρος, weight), lines drawn upon a meteorological chart to connect places where at the sea-level or on the earth's surface the atmospheric pressure is the same at any given time.

Isocardia, the name of a genus of lamellibranchiate molluscs, belonging to the family Cyprinidæ; they have a thick, equivalve shell, with a spiral apex. *I. cor* is the heart-cockle.

Isochronism, that property possessed by an oscillating system, *e.g.* a pendulum, which oscillates in equal times, however great the vibrations may be. This can only be possessed when it moves in a cycloidal arc. Because of their practical I., musical instruments such as tuning forks, organ pipes, and stretched strings give notes whose pitch is independent of the intensity. *See* SOUND, ELASTICITY, and CYCLOID.

Isoclinal Strata, those which dip in the same direction on both sides of the axis of curvature. They were doubtless preceded by ordinary symmetrical folding, after which the vertical axis became tilted and gave a sigmoidal fold; in many cases continued strain has caused the middle limb to be elongated and fractured.

Isoclinic, and **Isogonic**. When a magnet is suspended freely from its centre of gravity, and allowed to come to rest, it is found that it takes up a definite position at a given locality. The vertical plane passing through the axis of the magnet is called the magnetic meridian. angle between the plane of the

[illegible] the magnetic
e declination.
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the axis of the freely suspended magnet with the horizontal is ca[illegible] the inclination or dip. At the magnetic poles the dip is 90°; at magnetic equator its value is zero. It has intermediate values at places between the poles and the equator. Isoclinic lines are lines connecting those places on the earth's surface at which the inclination is the same.

Isocrates (436-338 B.C.), a celebrated Attic orator, born at Athens, where he was taught in the schools of Gorgias, Prodicus, and Socrates. He was prevented by his timidity from ever speaking in public, but wrote orations for others. He started a school of rhetoric at Chios, but subsequently moved to Athens, where he had 100 pupils. He was a personal friend of Philip of Macedon, and this friendship for a time kept off war. When the Athenians were defeated at Chæronea in 338, I. was so overcome with grief that he put an end to his life. Twenty-one of his orations and nine letters have come down to us. His style is correct, harmonious, and dignified, but often somewhat artificial. His most famous oration is the *Panegyric*, in which he records the patriotic services Athens had rendered to Greece. The chief editions of his extant writings are by Baiter and Sauppe (1856), and Benseler and Blass (1878). *See* Jebb's *Attic Orators* (2nd ed.), 1893.

Isocyanides, Carbamines, or Carbylamines, a class of carbon compounds, isomeric with the cyanides, but containing the group –NC, in which the alkyl group is united to carbon through a nitrogen atom. They are extremely poisonous, have a disgusting odour, and on hydrolysis yield formic acid and an amine.

Isodimorphous Substances. Two substances are said to be isodimorphous when they each crystallise in two distinct forms (*i.e.* are dimorphous), and in each of their dimorphous forms are isomorphous. For example, arsenic and antimony trioxides each crystallise in two distinct forms which occur naturally in minerals, but each form of the arsenic compound is isomorphous with the corresponding form of the antimony compound. Thus, As_2O_3, in arsenolite (cubic), in claudetite (orthorhombic); Sb_2O_3, in senarmontite (cubic), in valentinite (orthorhombic), A and S. are iso-

[illegible] V. Again
norphous,
aragonite.

Lead carbonate (in the mineral *cerussite*) is isomorphous with aragonite, but no form is known which is similar to calcite. Crystals of calcite often contain, however, carbonate of lead (plumbocalcite), which shows that this latter may also [illegible] in the same form as
as yet it has not
is a distinct mineral.

Calcium and lead carbonates may therefore be sa[illegible]

Isoëtes, the [illegible]
in the orde[illegible]
flourishes in temperate and tropical lands and consists of fifty aquatic or semi-aquatic plants. Several of the species are known as quillworts on account of their grass-like appearance, and *I. lacustris* is known in Britain as Merlin's grass. The genus resembles *Selaginalla* in many of its characteristics and is closely allied to that genus of plants.

Isola, a tn. in the prov. of Istria, Austria, 9 m. S.W. of Trieste on the S.E. shore of the gulf. It is noted for the famous I. wine. Pop. 9361.

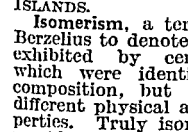
Isola Bella, *see* BORROMEAN ISLANDS.

Isola della Scala, a tn. of Italy, 11 m. S. of Verona. Pop. about 6000.

Isola del Liri, a com. of Italy, prov. of Caserta, situated on an island formed by the R. Liri, and 5 m. S.W. of Sora. It has machinery works and paper and woollen mills. Pop. about 8500.

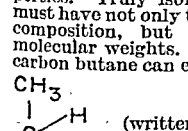
Isola Madre, *see* BORROMEAN ISLANDS.

Isomerism, a term introduced by Berzelius to denote the phenomenon exhibited by certain substances which were identical in chemical composition, but which possessed different physical and chemical properties. Truly isomeric compounds must have not only the same chemical composition, but also the same molecular weights. Thus the hydrocarbon butane can exist in two forms,



(written more concisely $CH_3.CH_2.CH_2.CH_3$)

and



The former, therefore, is called *normal*- and the latter *iso*-butane. Berzelius also introduced the term *metamers* for the above type of I., and to denote the differences between such compounds as butylene (C_4H_8) and ethylene (C_2H_4) the term *polymer* was suggested. Differences are observed in the case of certain elements, *e.g.* sulphur which occurs in two different cryst[illegible] rhombic and [illegible] differences are [illegible] crystalline conditions and disappear entirely when the element is either dissolved or fused. To this type of I. the name *polymorphism* is given. This differs in kind from the phenomenon exhibited in the case of oxygen and ozone, as the latter must be regarded as a polymer of the element.

Isomorphism (Gk. ἴσος, equal; μορφή, form). Two substances are said to be truly isomorphous when their crystalline forms and chemical compositions are similar. Mitscherlich discovered that the phosphates and arsenates of sodium crystallise in the same form, and from this and other observations he formulated, in 1821, his 'law of I.,' which states that substances of similar chemical composition exhibit the same crystalline form. Since, however, a large number of similarly constituted substances are now known which crystallise in distinct forms the statement requires modification. Among truly isomorphous substances may be mentioned the following: The alums, zinc sulphate, $ZnSO_4.7H_2O$; and magnesium sulphate, $MgSO_4.7H_2O$; ammonium chloride, NH_4Cl (in which the group NH_4 behaves as a metallic radicle); and potassium chloride, KCl, etc. The converse of Mitscherlich's law by no means holds. Thus we find the diamond, C: magnetite, Fe_3O_4: and the alums, which exhibit no chemical analogy, crystallising in octahedra. These substances are not truly isomorphous, but are said to be isogonous. The power to form 'mixed crystals' or 'overgrowths' is generally accepted as a criterion of I. Thus, magnesium and zinc sulphates crystallise together in all proportions in the same form as a crystal of either constituent, and if a crystal of chrome alum be immersed in a solution of common alum, the new layer of the latter will be deposited regularly on the old crystal of the former. The law of I. is the most important generalisation in the science of crystallography, and has proved of much use in settling the atomic weights of several elements.

Isopoda, the name of an order of Malacostracan crustaceans, characterised by a broad, flattened body, with no carapace, and by lamellar legs, whose inner rami serve as branchiæ, situated on the abdomen. They have many features in common with the Amphipoda, as, for instance, the sessile eyes and the firm, calcareous covering of the body, but the abdomen of I. is usually much shortened and the heart is situated posteriorly. Some of the larger species inhabit the bed of the sea, others are inhabitants of fresh waters, and many are parasitic on the bodies of fishes and crustaceans. I. are divided into two sections; under I. Genuina are grouped Oniscoidea, wood-lice, the only terrestrial forms, Asellota, Phreatoicidea, Valvifera, Flabellifera, and Epicaridea; I. anomala consists of the family Gnathiidæ, most of whose species are littoral.

Isoprene, or Methyl-butadiene (CH_2:CMe.CH:CH_2), a liquid boiling at 35° C. It is best prepared from isoamyl alcohol (which is present in fusel oil). I. has attracted much attention of late from the fact that it may be converted into a substance

identical with naturally occurring caoutchouc.

Isopyre, a greyish or black mineral, consisting of silicates of lime, iron, and alumina. It has a vitreous lustre-like obsidian.

Isosceles (literally, equal-sided), the name given to a triangle which has two equal sides.

Isotelus, the name of a genus of trilobites found in the calcareous strata of the United States.

Isothermal Lines (from Gk. ἴσος, equal, and θέρμος, heat), also called Isotherns, connect places on a map where the temperature on the earth's surface is the same at any given time at the sea-level. Isothermal charts afford a ready means of studying relative temperatures and may be drawn to indicate the average monthly, seasonal, or annual temperatures. They show clearly how much temperature is affected by the distribution of land and sea.

Isotropy (Gk. ἴσος, like, τρόπος, character), a condition of having uniform characters throughout. The term is especially applied, in physics, in connection with substances or media in which elastic stresses are propagated uniformly in all directions. Such substances are termed *isotropic*, and the possession of the quality supposes that the molecular structure of the medium is homogeneous throughout its substance. Non-homogeneous media, on the other hand, are known as *arisotropic* or *heterotropic*. In crystallography, I. is a property possessed by certain crystals of the cubic system which have only one index of refraction for rays of the same wave-length. They have, therefore, no action on polarised light. I., in embryology, is applied by Pflüger to that condition where there are no predetermined axes.

Isouard, Nicolo (1775–1818), a musical composer, born at Malta. At an early age he went to Paris, where he was educated at the Institution Berthand, a preparatory engineering school. He devoted a great deal of his time to the study of the pianoforte under Pui, but, nevertheless, passed his examination for the navy. Before receiving his commission however he was recalled, and returned to Malta in 1790. He then studied music seriously and determined to become a composer. His first opera, *Lavriso ai Maritati*, was produced at Florence in 1795. In all he composed about thirty-three operas, amongst which are: *Artaserse, Michel-Ange. Cendrillon, Joconde, Jeannot et Colin, Les Deux Maris, L'une pour l'autre*, etc.

Ispahan, or Isfahan, a tn. and prov. of Persia. The province is bounded on the N. by Kashan and Irak, on the E. by Yezd, on the S. by Fars, and westward by the Bakhtiari district and Arabistan. Its population is over 500,000. Wheat, rice, cotton, opium, and tobacco, are produced in plenty. The town, once the capital of Persia, lies on the Zāyendeh R., which is spanned by fine bridges connecting the city with its Armenian suburb. Julfa, the surrounding plain is covered with fertile gardens and orchards. The Chihil Sutūn, or Hall of Forty Pillars, Hasht Behesht, the palace of Shah Abbas I., and the Mesjid-i-Shah, or Royal Mosque, are splendid remains of the days of I.'s glory before the Afghans demolished it in 1722. Traders gather in crowds along the busy bazaars, but whole streets are now in utter desolation. Pop. about 80,000.

Israel (God fighteth), the name given to the patriarch Jacob on the occasion of the famous incident detailed in Gen. xxxii., and it became also the name given to the tribes of the Hebrews collectively and as a nation. In later days, as will be seen, the name was restricted to the northern kingdom of Israel proper, while the southern kingdom was known as Judah. It is proposed in this article to deal with the history of the Hebrews from the time of the Patriarchs to the fall of the temple. (For their history since that date *see* JEWS.) The accounts which the Hebrews themselves in later days gave of their origin are contained in the early books of the Bible, and these are largely based upon genuine tradition. But as will be seen from the articles on the separate books, they underwent much editing in the course of years, always with a view to securing their greater conformity to a scheme and to increasing their didactic character. Moreover, they show a general tendency to imagine later conditions as present in primitive times. The ancestors of the Israelites were certain of the pastoral tribes having their abode in the wild tracts to the S. and E. of Palestine, of N. Semitic (and probably of Aramæan) stock. Their nearest kinsmen were Edom, Ammon, and Moab. About 2000 B.C. they migrated under their tribal chief, Abraham, from Haran in Mesopotamia into the land of Canaan. Here the tribes continued to lead a pastoral life, and ultimately, in the time of Jacob, a famine in the land of Canaan led to a fresh migration into Egypt. In the Biblical narrative the whole twelve tribes are mentioned as taking part in this migration, but it is important to notice that the movement is especially associated with the name of Joseph, that is to

say, the legendary ancestor of the chief of the northern tribes which formed I. proper. Here they obtained leave from Pharaoh to dwell in the land of Goshen, where their continued adherence to their own customs and pastoral life led them to be accounted barbarians by the cultured Egyptians. No certain mention of the sojourn of the Israelites in Egypt has been found on the Egyptian monuments, but that permission was often granted to dwell in the Egyptian borders we may deduce from an Egyptian inscription which tells how in the 19th dynasty (*c.* 1300 B.C.) such permission was granted to certain Edomites. In Egypt a time of great oppression came upon the Hebrews, and they were subjected to the harshest treatment and repressive measures, induced by a fear lest they should ally themselves with Egypt's foes. Then there arose the figure of Moses, the great founder of both the religion and the law of I. It is impossible to attribute to him, as did the Israelites themselves in later days, the whole body of the Hebrew legal and [illegible] but to him is inception. Mo of a priest of Midian, and at Horeb, *i.e.* Sinai, the mountain of God, he heard the call of Yahweh (Jehovah), his father's God, to deliver I. from the bondage of Egypt. He had much difficulty in rousing the enthusiasm of those he was sent to save, but ultimately the work was accomplished by means of the miracles wrought by Yahweh on behalf of his people. Moses led the Israelites to Mount Sinai, and here a covenant was solemnly made with Yahweh, and the new religion of I. was inaugurated, a religion that may rightly be called new, because based upon a conception of the Deity, more spiritual than any which had yet been conceived. From Sinai they passed to the work of conquering Canaan for which they had set out. An attempt made at Kadesh on the southern frontier was unsuccessful, and they returned to the wilderness, for a time which according to the Biblical narrative made the whole period forty years. During this time Moses died, and it was under Joshua that the entry into Palestine was finally made. Details of this are given in the Book of Joshua. The Canaanites were put down, but intermarriage between Hebrews and Canaanites was frequent. Hence came the ills of idolatry which we read of later. The Israelites now settled down to an agricultural and commercial life, of union between the various tribes and might well have led to the ultimate fusion of the two races. This was prevented by the rise from time to time of the *shofetim*, of Judges, who roused the dying ardour of the tribes and led them to the extermination of the enemies of Yahweh. Fifteen such heroes are named in the Book of Judges, from which book it will be seen how various were the enemies with which they had to contend. Their period shows a regular alternation of sin, punishment, and salvation. After Joshua comes a long period of falling away, followed by the rise of Othniel who delivers I. from the oppressions of Cushan of Mesopotamia, into whose hands they had been given. On his death, I. again sins and is punished by the hands of Eglon, king of Moab. This time salvation comes through Ehud, but his death is followed by another relapse into idolatry, and so things continue. Among the rest of the 'Judges,' the most famous are Deborah the prophetess, and Barak, Gideon, Jephthah, Samson, and the prophet Samuel. During this period I. does not come at all into contact with the great kingdoms of the East. At the time of the Hebrew settlement in Palestine, the country was under the suzerainty of the Pharaohs, but it is probable that by this time the suzerainty was little more than in name. The conflicts were rather with their own kinsmen, the Moabites, Ammonites, and also the Midianites. The Philistines were among the most powerful opponents of I., and the story of Samson relates particularly to them. It was while suffering under defeat from this race that the Jews cried for a king, not only that by this centralisation of authority more head might be made against the invaders, but also that they might be like 'all the other nations.' Samuel the prophet, who was at that time their leader reluctantly consented to accede to their desires and chose as their king Saul, the son of Kish.

From the foundation of the monarchy (c. 1020 B.C.) to the exile.—Saul soon proved his fitness for the new position which had been given to him by brilliant successes, first by the raising of the siege of Jabesh-Gilead, after which he was solemnly proclaimed king at Gilgal, and then by a decisive victory over the Philistines at Michmash. Here the victory was due chiefly to the bravery of Saul's son Jonathan and six hundred Benjamites who accompanied Saul, who was a member of their tribe. Saul was himself a great warrior, and his next campaign was against the Amalekites, who had long been troubling Judah.

He was, however, given to fits of madness, and to quiet him in these, David, the son of Jesse the Bethlemite, a 'cunning player on the harp,' is brought in to play to him. His presence, however, had a bad effect on Saul, and this was increased by David's rapid rise in popularity. His courage and success in war had led Saul to make him his armour-bearer, and his intimate friendship with Jonathan, the king's son, rendered his position such as to cause Saul's jealousy. Moreover, he was the king's son-in-law. Hence Saul decided to slay David, who in consequence became an outlaw, ultimately having his centre of operations at Ziklag. Though he resolutely refused to enter into operations against I., events were so shaping themselves that it was possible for him to return in power on Saul's death. This occurred at Mount Gilboa, and David, on hearing of it, immediately went up to Hebron with his followers and was anointed king of Judah. Meanwhile, Abner, Saul's leading general, had taken Saul's son, Ishbaal, to Mahanaim, and there had him crowned as king of I. War in consequence broke out between I. and Judah, in which the southern kingdom was steadily victorious. On the death of Abner and Ishbaal, the crown of I. was offered to David, who immediately took up the work of uniting the two divisions. He transferred his capital to Jebus (Jerusalem), the great hill-fortress of the Jebusites, whose position had hitherto constituted them a barrier between N. and S., and thither he brought the

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extension of his power, and war resulted. In a succession of violent conflicts David secured the freedom of his kingdom, and pushed its boundaries in the N. to Dan, S. to Beersheba, and W. to the Phœnician frontier. The eastern boundary was continually changing. David's great work, however, was in the consolidation of the kingdom, and his internal administration. To him, too, the idea of t[illegible]t Jerusalem. Temple, owe[illegible]gh poetic and [illegible]tested by his [illegible] the school nan[illegible]n passed from David to his son, Solomon, whose name is associated by tradition with power, wisdom, and wealth. The outstanding features in this reign are, therefore, connected with these. Now, for the first time, I. took a prominent place among the great nations of the East, though it is probable that it was in some degree subject to Pharaoh, whose daughter Solomon had espoused. Commercial treaties were entered into with such neighbouring monarchs as Hiram of Tyre, in union with whom ships were sent as far as Tarshish (Spain) and Ophir (Southern Arabia ?). Moreover, I.'s position on the main trade route between Assyria and Egypt was fully utilised. Hence much wealth was gathered, but not enough to satisfy the demands of the court, for Solomon now led the life of the ordinary Eastern despot, as is shown by the account of his officers and attendants given in the Biblical narrative. His court was more splendid than any other of which we read in the history of I., but such magnificence could be sustained only by a heavy taxation. The oppression and tyranny which this caused alienated the hearts of many of his subjects. Things reached a crisis on the death of Solomon (930 B.C.), and this the Bible shows us graphically in the account of the deputation, headed by Jeroboam, which came to Solomon's son, Rehoboam, to ask relief from the burdens which his father had laid upon the country. There were two courses open to him, acquiescence in his people's demands or an attempt to intimidate them. He chose the latter, and the immediate result was a revolt of the ten tribes of Israel under Jeroboam, the son of Nebat. Judah and Benjamin alone were left to Rehoboam, while I., for the name is henceforth reserved to the northern kingdom, made Jeroboam its king.

At this point it will be well to make a short digression, and to consider the main points in the religious condition of the Hebrews and the effects of Jeroboam's revolt in the northern kingdom, carrying the review on a little further as far as the period of exile. The ancient Hebrews had no conception of Yahweh (Jehovah, *q.v.*) as the God of the whole earth. He was regarded rather as the God of their own particular nation. It seems not to have been questioned that the gods of other nations had a very real existence, though in power and holiness they were not to be compared to Yahweh. This is well seen in Miriam's song (Ex. xv. 11), and in the first [illegible] Decalogue, [illegible] assumed of [illegible] worshipped. [illegible]ins the fre[illegible] of the Jews from Jehovah, which would be inexplicable on the hypothesis that they recognised Him as the one God. Yahweh was worshipped particularly at the various places where He had manifested His power, but any place

might be used. A preference is shown for fountains, hill-tops, etc., such as is found in other Semitic cults, and the ceremonial system was probably also akin to these. But the Israelitish conception of the D[illegible]
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this advance is shown by the later story of Abraham and the human sacrifice of Isaac, first commanded and then forbidden by the Deity. The advance continued during the period of the Judges, though, as we have seen, relapses into foreign cults and resultant immorality were frequent. In this period the functions of the prophets, such as Deborah, was to bring back the people to the conception of Yahweh as the God of their nation, to prevent, in fact, the religion of Yahweh being entirely overcome by heathen cults. The institution of the monarchy heralded a great change. David brought his royal sanctuary at Jerusalem into prominence, and the next reign saw the erection of the Temple. There is no reason to suppose that any attempt was made to suppress the local sanctuaries, though they were probably more or less connected with idolatry. Its purpose was, rather, that here, at certain annual festivals, the whole people might gather for a national feast. Though later tradition ascribes to Moses, as is customary, the institution of a priestly succession in the line of Aaron, the institution of the hierarchy is, in point of fact, post-exilic. Sacrifices were offered by the head of the nation, clan, or family, or by a prophet. When Jeroboam instituted a new kingdom, therefore, one of his first acts was to prevent the Israelites from going up to keep the annual festivals at the Temple. He did this by instituting, or reviving, sanctuaries at Bethel (and Dan ?), where he set up golden calves as symbols of Yahweh, and instituted a new priesthood. His sin, it would seem, lay not in neglecting the service of the Temple, but in the retrograde step towards idolatry shown by the erection of the golden calves. During the period of the undivided monarchy, the prophets turn their attention to the moral condition of the Israelites themselves, the attempt is to save the religion of Yahweh from internal corruption rather than from
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ences not being uniformly complimentary, as may be seen from those with regard to Saul, where prophecy and frenzy seem closely connected. The greater prophets, however, saw more clearly into the true meaning of things and gained a fuller conception of the will of Yahweh, whose revelation was being made progressively clearer to the nation which He had chosen. The great period of the prophets was the 8th century B.C., to which belong many of the greatest of the Messianic prophecies, such as those in Amos ix. 11, Hosea iii. 5, and those in the earlier half of Isaiah. The high spiritual feeling of the age is also well shown in the Book of Deuteronomy, from which Our Lord quoted the two commandments on which hang all the Law and the Prophets. Here also may be seen the development in ceremonial. The main feature in the prophets of the 8th century is the demand put forward in the name of Yahweh for justice in the state and mercy in social relations. Often we find strong condemnations of ceremonial and formalism in worship, which was then as now often associated with loose morality. The idea of Yahweh as the judge and ruler of the whole world is now generally accepted, and a still greater development is seen in the emphasis laid upon the moral responsibility of the individual by such a prophet as Jeremiah. The vast majority of the prophets of this time were Judahites. Such were Nahum, Zephaniah, Isaiah,
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To return now to the political development. Soon after the death of Solomon, the ten tribes formed themselves into a separate kingdom under Jeroboam, the son of Nebat, while the tribes of Judah and Benjamin continued to uphold the Davidic dynasty. During the two centuries that elapsed between the death of Solomon and the conquest of I. by Shalmanezer, king of Assyria, nineteen kings reigned in the northern kingdom. These nineteen kings may be divided into four periods. The first period (930-890 B.C.) is occupied in attempts to establish a dynasty and in wars with Judah. Its kings are Jeroboam I., Nadab, Baasha, and Zimri. It ended in civil strife, from which ultimately emerges the new dynasty of Omri, which gives us the second period from 890-843. The importance of this dynasty is shown by the fact that I. is usually spoken of on Assyrian monuments as 'the house of Omri.' Its kings, after Omri himself, were Ahab, Ahaziah, and Jehoram. The reverses which Omri suffered at the hands of the Syrians

were made up for by Ahab. This king was a great statesman, though the injury his idolatry did to I. is well shown in the Biblical narrative. He formed an alliance with Jehoshaphat, king of Judah, the alliance being cemented by the marriage of Jehoshaphat's son, Jehoram, to Athaliah, daughter of Ahab. The two nations then took united action against the Syrians, with whom, after the defeat of Benhadad II., a treaty was formed. Ahab's idolatrous practices were largely due to his alliance with Ethbaal, king of Tyre, and his marriage with that monarch's daughter, Jezebel. Ahab died in battle at Ramoth Gilead, and in the reign of Jehoram an attempt was made, in union with Ahaziah, king of Judah, to retake this town. Now occurred the rebellion of Jehu ben Nimshi, in which Jehoram and Ahaziah both perished. Jehu founded his dynasty (which forms the third period, 843-740) in a sea of blood. His operations against I.'s external foes were not so successful, and he was compelled to make with the rising Assyrian power terms which involved the payment of tribute. Down to the time of Jehu, the sovereignty of Judah had remained in the possession of the house of David (six kings), but on the death of Ahaziah an attempt was made by Athaliah to exterminate this dynasty. Joash, however, escaped, and after six years was proclaimed king by Jehoiada, the chief priest. Athaliah was slain and the Davidic dynasty restored. A fresh attack now came from Hazael, king of Syria, who had meanwhile been engaged in defending himself against Assyria. He conquered the country E. of Jordan, and would have attacked Jerusalem itself had not Joash bought him off with great presents. Joash was then assassinated, and his son, Amaziah, succeeded him. This prince foolishly renewed the quarrel with I., and took the field against its king, Joash, son of Jehoahaz. He was defeated and assassinated, while Joash occupied Jerusalem. After this there succeeds for Judah a time of comparative prosperity and quiet, but in a position of dependence on I. There was likewise a short period of great prosperity in the northern kingdom under Jeroboam II., but this was largely due to the fact that Assyria was going through a period of weakness. Matters changed with the accession of Tiglath-Pileser III. to the throne of that kingdom in 745 B.C. Three courses now lay open to the Syrian states, and between them we see continual vacillation. One was that of a united defence against Assyria, the second was that of adhesion to Egypt, the third was that of dependence on Assyria. As far as I. was concerned things were made worse by the death of Zachariah, the last king of the house of Jehu in 740. After this there succeeded a period of anarchy lasting eighteen years, during which five kings sat upon the throne, and were in turn violently removed. Shallum ben Jabesh, the slayer of Zachariah, met his death in less than a month at the hands of Menahem, who attempted to support himself by paying tribute to Tiglath-Pileser, and thus making him his friend. Menahem was succeeded by his son, Pekahiah, who was slain and succeeded by his charioteer, Pekah. At this time a general confederacy of Syrian states against Assyria was being promoted, but Ahaz, king of Judah, refused to join it. He relied instead, in opposition to the advice of the .prophet Isaiah, upon Assyria. Hence the Syrians and Israelites opened a campaign against him, in which they then were joined by the Edomites. Tiglath-Pileser entered N. Israel in support of Ahaz, and deported into Assyria the leading inhabitants of Galilee and the district around. He also extinguished the Syrian monarchy, and set up Hoshea as vassal king in I. For some years Hoshea remained submissive, but he was then persuaded to revolt by So, king of Egypt. Hence Shalmanezer IV. marched against him, and for three years besieged him in Samaria. The city was eventually taken by Sargon (722 B.C.), and the chief inhabitants of I. to the number of 27,290 were taken into Mesopotamia and Media. They were replaced by Assyrian colonists, and these, intermixing with the inhabitants of the country, formed the mixed race known as Samaritans. The kingdom of Judah had, after all, survived its more powerful neighbour. Here Ahaz was still king, but he was succeeded a few years later by his son, Hezekiah, who attempted a reform in the religion of the country, which had been much debased under the preceding kings. He inaugurated a campaign against local sanctuaries and strove to restrict worship to the Temple. In this he was assisted by Isaiah. Judah was still subject to Assyria, and Hezekiah's friendship with Egypt brought him into danger of punishment from Sennacherib. An Assyrian army was, indeed, approaching Jerusalem when it was arrested by a plague. Egypt was, moreover, prepared to support Hezekiah, and so Sennacherib retired. On the death of Hezekiah the succeeding princes encouraged the heathen cults in their worst forms, but another and greater

reform came on the accession of Josiah (621 B.C.), connected especially with the finding of the book of the law (*see* DEUTERONOMY) by Hilkiah the priest. Meanwhile the Assyrian empire was breaking up, and Judah came into collision with Pharaoh Necho II., who was desirous of pushing the interests of Eygpt. In conflict with him Josiah fell at Megiddo (608), while Jehoahaz, his younger son and heir to the throne, was carried into Egypt, while Necho set Josiah's eldest son, Jehoiakim, on the throne of Judah. In 605 Egypt became subject to Babylon, and Judah became subject to Nebuchadnezzar II. before 600 B.C. In 598 an attempt to regain his independence was made by Jehoiakim, and Jerusalem was besieged. Jehoiakim, the boy-king who had succeeded his father, was taken prisoner, and in the following year (597), from which Ezekiel reckons the years of the captivity, the greatest and noblest of the Jews were deported to Babylon, while Zedekiah was appointed king over those that remained. In 586 a fresh revolt led to the sack of Jerusalem by Nebuchadnezzar and fresh deportations. There was still no peace, however, for Gedaliah, the Babylonian governor left in charge, was assassinated, but the remnants of the Jews fled into Egypt, taking with them the prophet Jeremiah.

From the exile to the revolt of the Maccabees.—The exiles in Babylon were well treated, and had opportunities of rising to the highest offices in the state, as was exemplified in the case of Nehemiah, and as is also shown in the story of Esther, which belongs to the reign of Antiochus Epiphanes. The exile was also a distinctly providential step in the development of the Jewish religion. The impossibility of continuing the Temple sacrifices made the Je
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now instituted and the general conception of the after-life was developed under Persian influences (*see* HELL). The scribes now became a prominent caste, and the historical and ceremonial books were carefully re-edited. But although those Jews whose minds were fixed chiefly on commerce found themselves better off in Babylon than in their own country, the idea of absence from the Temple was intolerable to the religious. Hence it was not long before attempts were made to secure a return to Jerusalem. Cyrus was the deliverer from whom permission for this step was obtained, the permission being granted in the very year (538 B.C.) in which he overthrew the Babylonian kingdom. Cyrus gave orders that the temple of Yahweh should be restored, and sent a company of Jews, probably including Joshua ben Jozadak, under Sheshbazzar, himself a Jew. as governor. Unfortunately, however, the opposition which met the project from the Samaritans and others led to its abandonment until the second year of Darius (520 B.C.). The work was then inaugurated and the new temple was dedicated four years later. Nothing more is known of the history of the return from exile until the reign of Artaxerxes Longimanus (462-425), when a band of some six thousand exiles, under the leadership of Ezra the scribe, arrived in Jerusalem. Some ascribe this to the year 458, others make it later than Nehemiah's journey. In 446 further steps were taken by Nehemiah, the king's cupbearer, who got himself appointed as governor of Judah. He set to work to fortify the city of Jerusalem, and with the help of Ezra re-instituted the Temple worship and enforced the carrying out of the law. To this period belongs the final split between the Jews and the Samaritans, made by the establishment by the latter of a rival sanctuary on Mt. Gerizim, accompanied by an entire acceptance of the law and the institution of a fresh priesthood. To this period belongs also the rise of the high-priesthood to a prominence which was later to make it regal. Palestine was affected by Alexander the Great's march through the East, and on the defeat f the Persians at Issus in 333, it became subject to Greek rulers. A large number of Jews were deported to form
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reached Jerusalem itself, where it was well received by one of the two great parties struggling for the supremacy. The lot of Palestine was, on the whole, fortunate until the reign of Ptolemy Philopator, when they were much oppressed. Things changed still more for the worse when, after the defeat of the Egyptians, Antiochus III. incorporated Palestine with the dominions of the Seleucidæ (197). A deliberate attempt was made under the next sovereign, Antiochus Epiphanes, to stamp out the Jewish religion. Its peculiar rites, such as

circumcision and the observance of the Sabbath, were strictly forbidden, while the Temple was dedicated to Zeus and sacrifices offered there. Thousands were put to death rather than give way to such coercion, but ultimately a deliverer arose, who inaugurated one of the greatest and most heroic periods in Jewish history.

From the Maccabees to the destruction of the Temple.—Hitherto the resistance of the Jews had been mainly passive. Active resistance came from the family of Mattathias, an aged priest of the village of Modein. He slew a Jew who was offering sacrifice to heathen deities, and slew also the Syrian officer who was supervising. Then, taking with him his five sons, he fled [illegible] and gathered round him in [illegible] company w[illegible] ke aggressiv[illegible] ed be, even u[illegible] The act was a desperate one, and a measure of success was rendered possible only by the internecine struggle for the throne which distracted the Syrians themselves. The work of Mattathias was twofold. He aimed not only at securing independence for Palestine, but also at stamping out heathenism, and punished those Jews who had deserted their faith. Mattathias, who was an old man when he commenced the revolt, soon died, handing on the leadership to his son Judas, surnamed *Maccabeus*, 'the hammerer,' from which his whole family has received the name of 'the Maccabees.' Judas was a great warrior and fervent believer in his cause, and hence was attended with considerable success. He defeated Apollonius, a prominent Syrian general, and followed this up by victories over Scron and Gorgias at Beth-horon and Emmaus respectively. Finally, he defeated Lysi[illegible] himself at Beth-zur. [illegible] country arou[illegible] cided to mak[illegible] of his operations, and hence the Temple was fortified and re-dedicated. A new service of priests was set up and worship was restored. By this step a great victory was scored, not only over the Syrians, but also over the schismatic supporters of Hellenistic Judaism. But the Syrians still held the fortress of Acra, and hearing that they were hard pressed, an army under Lysias and Antiochus Eupator marched to their assistance. [illegible] threatened to go hard with t[illegible] cabean army, which was being besieged in the fortified [illegible] when suddenly, in 162 B.C., [illegible] sion was granted them to exercise their religion freely. Many of the Jews, even the most zealous for the law, were now willing to settle quietly, but the Maccabees resolved to continue the struggle for political freedom. The secular struggle was to be less successful than the religious. It began well, with the defeat and death of Nicanor near Beth-horon, but this was almost immediately followed by an overwhelming victory for the Syrians at Eleasa, in which Judas himself was slain. The leadership of the party, which was now scattered far and wide, fell to Jonathan, the brother of Judas. An attempt was now being made by Bacchides, the victor over Judas, to secure order throughout the country, and accordingly Jonathan was able by skilful diplomacy to secure peace on favourable terms, ultimately being himself made high-priest in 153. In 143 Jonathan was slain in the quarrels for the throne of the Seleucidæ, and Simon, his brother, became leader of the Maccabean party. He fortunately espoused the cause of Demetrius II., from whom he secured a recognition of Palestine's independence (142). So famous a year was this that it was considered the beginning of a new Jewish era, and from it dates were counted and coins were dated. Simon, who was made high-priest in 141, was a wise and prudent ruler, and under him the country enjoyed comparative quiet, and in the one important conflict, that with Antiochus Sidetes, Simon was victorious. But there was still much scheming and party strife. Ptolemy, Simon's son-in-law, was striving to secure the supremacy, and as a step to this Simon was assassinated. But the crime gained Ptolemy nothing, for the power fell into the hands of Simon's ambitious third son, John Hyrcanus, who assumed the high-priesthood in 134 B.C., and with it the sovereignty. The reign of John Hyrcanus was outwardly most prosperous, though at the beginning he was hard pressed by Antiochus. Here perhaps he was saved by the influence of the Romans, with whom Simon had made an alliance, and with whom John Hyrcanus was continually in touch. Later in his reign (134-104) he extended the Jewish dominions considerably in all directions. The Samaritans were reduced and the 'Temple' on Mt. Gerizim was destroyed. He further subdued the Galileans and Idumæans. During his [illegible] e is visible the rise [illegible] ence of the Phari- [illegible] John was led to [illegible] ith the latter of [illegible] f that opposition [illegible] his family which [illegible] period [illegible] On his

death, his son, Aristobulus I., succeeded to the throne by the murder of his brother, and reigned but one year, during which he reduced the Ituræans. He was followed by Alexander Jannæus, a warrior prince who almost entirely neglected his sacerdotal position. His chief aim was the extension of his territories, but he had also to contend against discontent at home. He was not at all popular with the people, and the whole strength of the Pharisaic party was against him. He put down all revolts with inhuman cruelty, and continued his military expeditions. He ultimately met his death (76 B.C.) in a campaign against the Arabians. After his death, the high-priesthood fell to Hyrcanus, Alexander's eldest son, but all power remained in the hands of his mother, Alexandra, who accorded a much greater share in public affairs to the Pharisees. But Hyrcanus's younger brother, the energetic Aristobulus II., angry at his exclusion from a share in the government, raised an army and deposed Hyrcanus. Then, as the supporter of Hyrcanus, there rises the figure of Antipater the Idumæan. This man induced Hyrcanus to place himself under the protection of Aretas, king of the Nabatæans, by whose aid Aristobulus was defeated. The Romans now took a hand in the struggle, and Pompey, in 65 B.C., sent his legate, Scaurus, to settle matters, which he did in favour of Aristobulus. This decision was reversed two years later by Pompey himself. Hyrcanus was made high-priest, but the government of Judæa was attached to the Roman province of Syria. The Hasmonean dynasty, and the Sadducees who supported it, was by no means quiet, and in 57 an attempt was made to set Alexander, the eldest son of Aristobulus, on the throne. Alexander was taken prisoner by Gabinius, governor of Syria, and in order to break up what unity remained among the Jews the land was divided into five administrative districts. Aristobulus, who had been taken by Pompey to Rome, now escaped and raised a second ineffectual revolt in 56, and this was followed in 55 by a last attempt under Alexander, which was put down by Gabinius. In the next year Licinius Crassus visited Jerusalem and plundered the Temple. On the outbreak of war between Pompey and Cæsar, Aristobulus and Alexander, who supported th[illegible] put to death by the [illegible] Pompey. On the deat[illegible] however, Hyrcanus [illegible] mission to Cæsar. Antipater the Idumæan then secured for himself the post of procurator of Judæa (47 B.C.), while to Hyrcanus was left only the high-priesthood. Thus ended the Hasmonean dynasty. Antipater also succeeded in making his eldest son, Phasæl, governor of Jerusalem, and his other son, Herod, governor of Galilee. But the patriotic Jews viewed with horror this establishment of an Idumæan dynasty, and set up Aristobulus's last remaining son, Antigonus, as his rival. Antipater was poisoned and Phasæl committed suicide in prison, but Herod invoked the aid of the Romans, and in 37 secured Jerusalem. Antigonus was put to death in the same year. Herod carried on the difficult task of ruling Judæa by the aid of the Romans, and with the utmost cruelty. He gradually brought about the death of all those who were in any way connected with the Hasmonean dynasty, and did not even spare his own family, of whom many perished. He was a great favourer of Hellenistic culture and a great builder. Among other works of this kind he rebuilt the Temple at Jerusalem. On his death the kingdom was divided into tetrarchies, ruled respectively by his sons Antipas, Philip, and Archelaus, the last-named ruling Judæa and Samaria. His rule, however, was so cruel and despotic that in the year 6 A.D. Augustus deprived him of his power and sent him into exile. His tetrarchy was then attached to the province of Syria. Henceforward, except for the brief period from 41-44 A.D., Judæa was under Roman procurators. During these few years it was ruled by Herod Agrippa, whose favour with Claudius secured to him all the territories over which his grandfather had ruled. On his death there was a period of dreadful anarchy and internecine strife between the inhabitants of Palestine, which was increased rather than lessened by the actions of the procurators, many of whom were in league with the worst of the freedoms. From the chaos there rises a fanatical party known as Zealots or Sicarii (Assassins). These rose in revolt in the year 70, and a bloody struggle ensued, terminated only by that bloodiest of all scenes, the destruction of Jerusalem by Titus (A.D. 70).

[illegible] G. W. Wade's
[illegible] S. R. Driver's
[illegible] *erature of the*
Old Testament (5th ed.), 1891; Boscawen's *The Bible and the Monu-*
[illegible] *gion of Israel to the*
[illegible] *Histoire du peuple*
[illegible] *t's History of the*
[illegible] 97; Wellhausen's
Gesch. Israels, 1899; Kent and Riggs's
Hist. of the Jewish People; W.
Robertson Smith's *Religion of the*

Semites (3rd ed.), 1901; Graetz's *Gesch. der Juden von den ältesten zeiten bis auf die Gegenwart* (Eng. trans., abridged by the author), 1891-92, etc.

Israëls, Josef (1824-1911), a Dutch painter, was of Jewish parentage. For two years he worked in Paris under Picot, and soon afterwards he settled down at the Hague, which he made his home for life. It was during a convalescence passed in the fishing-town of Zandvoort that the poignancy of the poor's suffering and the tragedy of life were first vividly revealed to him: henceforth his pictures ' were painted with gloom and suffering,' and became the most sensitive and artistic expression of his well of intense compassion for the distressed and weary of mankind. I. has truly been called the Dutch Millet, although he emphasised the shadow rather than the light. Among his masterpieces are: 'The Zandvoort Fisherman,' 'Village Poor,' 'Shipwrecked,' 'Cradle,' 'When We grow Old,' 'The Widower,' 'The Bric-à-brac Seller,' and 'Between the *Fields and the Seashore.*' I. is one of the first of modern painters.

Israfil, or **Israfeel**, the angel of music, who, according to the Mohammedan belief, will sound the last trump from the Temple rock at Jerusalem, calling men to judgment.

Issik-kul, or **Issikul** (*Kirghiz*, warm water), a lake in Asiatic Russia, in the prov. of Semiriétchensk, is 5000 ft. above sea-level, and covers an area of 2300 sq. m. It is fed by many streams, but the surface is contracting. The water is salt, and contains a large quantity of fish. On the S. shore stands the town of Przhevalsk.

Issoire, a tn. in France, in the dept. of Puy-de-Dôme, near the confluence of the Couze and Allier. Was captured by the Protestants and destroyed by the Catholics during the religious wars of 1574-77. It has manufactures of cotton goods and machinery. There is an interesting Romanesque Church of St. Paul. Pop. 5600.

Issoudun, a tn. in the dept. of Indre, France, on the Théols, 17 m. N.E. of Châteauroux, is the cap. of an arron. It has copper foundries, manufactures of parchment, cloths, and agricultural implements, and quarries of lithographic stone. Pop. about 14,000.

Issue: 1. In law, offspring or lineal descendants of any degree. In English law the term is peculiarly appropriate to the descent (*see* INHERITANCE) or grant (*q.v.*) of real property, whether by deed or will. Before the *Wills* Act, 1837, a devise (*i.e.* grant by will) ' to A and his heirs, but if A die without issue, then to B and his heirs,' was construed to mean that A's estate (*q.v.*) should descend to A's issue in tail (*see* ENTAIL), *i.e.* as long as I. remained, when the gift went over to B and his heirs. But the Wills Act expressly enacts that the words ' die without issue ' should be construed to mean die without I. living at the death (*i.e.* of A in the above example) and not an indefinite failure of I. The Settled Land Act, 1882, made a further change, the effect of which is that as to testators dying after 1882, any child of A who has attained twenty-one is free to retain or sell the land at his pleasure. 2. In the language of pleading means some definite proposition of law or fact asserted by one party and denied or ' confessed and avoided ' (*see* CONFESSION AND AVOIDANCE) by the other; concisely setting forth the points on which both parties desire the verdict of a jury or the judgment of a court. To ' join issue ' means in effect to deny or traverse a proposition in the other party's pleading, upon which joinder no further pleading is necessary. Where the parties are agreed as to the questions of fact to be decided between them, they may, before judgment, by mutual consent, obtain an order from a master to go to trial upon such questions without formal pleadings, the question being stated in what is technically termed ' an issue.' The meaning of I. in Scots pleadings is not dissimilar.

Issus (modern *Aisse*), a tn. in Cilicia, near where that province adjoins Syria. Here Alexander the Great inflicted a crushing defeat on a huge host (500,000) of Persians under Darius their king. Vast treasure and the royal family fell into the conqueror's hands.

Issy, a tn. in Seine, France, 3 m. S.W. of Paris, forms part of the S.W. defences of Paris. It contains a school Saint-Sulpice, formerly the residence of Margaret of Valois. It manufactures silk and waxcloth, and has distilleries and chemical works. Pop. 19,000.

Istakhr, an ancient city of Persia, was an extension of Persepolis, destroyed by Alexander the Great in 330 B.C.

Istambul, *see* CONSTANTINOPLE.

Isthmian Games, were held at Corinth, and were called after the Isthmus. They were originally a festival commemorating Melicerta who, after being hurled into the sea, was changed into a deity. Their celebration dates back to 1326 B.C., but for some years they lapsed, and when Theseus re-instituted them he did so in honour of Poseidon. Later they were held every five years, and be-

came so sacred that they were not omitted even when Mummius had rased the proud city to the ground (146 B.C.). Huge crowds gathered from Asiatic as well as continental Greece to witness contests of every description, and the highest mead of honour was a pine-leaf garland or a parsley wreath.

Isthmus (Gk. *ἰσθμός*, neck), a term used in geography to describe a narrow neck of land joining two larger portions otherwise separated by the sea. Thus the I. of Suez links together Asia and Africa at the head of the Red Sea; that of Panama connects N. and S. America, and that of Corinth the Peloponnesus with Northern Greece.

Istip, a *tn.* in what was formerly European Turkey, on the Bregainitsa, in the vilayet of Kossova. The inhabitants, chiefly Servians, number about 20,000, and are engaged in agriculture.

Istres, a tn. in France in the dept. of Bouches-du-Rhône, on the W. shore of Etang de Berre, is 25 m. N.W of Marseilles. It has important salt and soda works. Pop. 3000.

Istria, a margravate and crown land of Austria, comprising a peninsula in the N.E. corner of the Adriatic Sea between the Gulf of Trieste and the Gulf of Fiume, and the islands of Veglia, Cherso, Lussino, and others, a total area of 1908 sq. m. The coast is very rocky and broken by many bays. Two-thirds of the population are Slavs, and the rest Italians. The chief industries are fishing, salt-retrieving, and shipbuilding. Olive oil and wine are manufactured, fruits are cultivated, wheat, maize, rye, and oats grown, and cattle bred in large quantities. The local diet meets at Parenzo (12,358), but larger towns are Pola and Castua. After many times changing hands, I. finally came under the dominion of Austria in 1813. Pop. 403,261.

Isturiz, Francisco Xavier de (1790-1871), a Spanish statesman, sided with the nationalists during the French invasion of 1808. A revolutionist in principle, I. used his position as an elected member of the Cor confidence in In 1823 he ; not fit to rule , ar was a refugee in London. In 1837—the date of his second return from compulsory exile—he became president of the Cortes, and in 1846 of the cabinet of ministers. His politics now led him to support the queen regent. From 1849-54 he was ambassador in London.

Isvolsky, Alexandre Petrovitch, Baron (*b.* 1858), a Russian statesman. He entered the diplomatic service at an early age, and in 1878 was charged with a mission to Pope Leo XIII., which resulted in the establishment of a Russian ambassador at the papal court. He then went to Tokio, and did much towards establishing amicable relations between the Russians and Japanese. In 1903 he represented the czar at years later v fill the positi Affairs. In Balkan crisis, he took a prominent part in European politics, and in 1910 he was appointed Russian ambassador to France.

Iswar Chandra ('Vidyasagar') (1820 refor man finest writers, he revealed the charm and beauty of his language in *The Exile of Sita*, 1862. Soon after 1851 he became principal of the Sanskrit College of Calcutta, where he had earlier been a most distinguished student. The Act of 1856, permitting the remarriage of Hindu widows, was largely the outcome of his exertions. The British government constantly appealed to him as a leading authority on education.

Itacoatiara, a tn. in Brazil at the mouth of the Madeira, a trib. of the Amazon, has a thriving coasting trade in the products of the district; cocoa, spices, dried fish, and india-rubber are exported.

Itacolumite, or Flexible Sandstone, a yellow sandstone of a porous nature found in Brazil. In the form of thin slabs, it is slightly flexible; a bar of it, when supported at its ends, bends into a curved form, but regains its original shape when the supports are removed. This is supposed to be due to the sand grains which form the rock not being firmly cemented together. In England, beds of flexible sandstone are found associated with the magnesian limestone of Durham. The Brazilian Is. occasionally contain crystals of diamond.

Itagaki, Taisūke, Count (*b.* 1837), a Japanese statesman, was prominent in the progressive movement which led to the overthrow of a feudalism long since antiquated. At Tosa he opened a school (the 'Risshi-sha') where he taught his advanced and enlightened political views. The party of patriots, 'Aikoku Kō-tō,' acknowledged him as their leader, and from 1881-1900 he directed the policy of the 'Jigūto,' whose watchwords were 'liberty' and 'reform.'

Itajahy, a riv. in Brazil, flows through Santa Catharina, and enters the Atlantic Ocean at Itajahy, a

small port for the German colony of Blumenau.

Italian Architecture, *see* ARCHITECTURE.

Italian General Navigation Company, the chief steamship line of the country, has its head offices in Rome. It controls 104 vessels, whose tonnage amounts to 224,338. It maintains regular services to the Mediterranean, to the ports of the La Plata and to New York, and to China and India. In 1901 it was formed by the coalition of La Veloce Navigation Italiana, and the Florio companies of Rubattino, Genoa, and Palermo.

Italics, letters of Italian origin, said to have been an imitation of the handwriting of Petrarch. It was introduced by Aldus Manutius of Venice in the 16th century for the purpose of printing his projected small edition of the classics. The cutting of it was entrusted to Francesco de Bologna. The capitals are square Roman letters but the small letters are designed to imitate handwriting, even containing a large number of tied letters. Although the letters are not joined to each other in modern printing, the ligatures or connecting lines at the beginning and end of each letter are a prominent feature. It was introduced into England in 1524, and is used to distinguish words, sentences, or such portions as introductions and prefaces which do not properly belong to the work. It is generally used for foreign words occurring in English text, for quotations, and for words requiring special emphasis.

Italy, a kingdom in the S. of Europe, comprising the great peninsula which extends southwards from the Alps into the Mediterranean Sea, together with the islands of Sicily, Sardinia, Elba, and various small islands. The Alps form a great semicircular barrier which separates it from the continent of Europe, from France on the N.W., Switzerland on the N., and Austria-Hungary on the N.E. Its boundary on the W. is that portion of the Mediterranean known as the Tyrrhenian Sea, while its eastern shores are washed by the Adriatic. Its greatest length, measuring in a straight line from N.W. to S.E., is 710 m., its breadth ranges from 354 to 20 m., having an average breadth of about 90 m. The total area is estimated at 110,659 sq. m., of which 91,277 sq. m. must be assigned to the kingdom of I. exclusive of large islands.

Northern I. is cut off from the rest of the peninsula by the Apennines, which branch off from the Maritime Alps E. of Nice, and run in a straight south-easterly direction from the Gulf of Genoa to the Adriatic Sea. The range then turns southwards near Urbino, and extends as far as Cape Spartivento in the 'toe' of the peninsula, thus forming the backbone of Central and Southern I. It is convenient to consider the peninsula under these three divisions: Northern, Central, and Southern. Northern I. embraces the provinces of Liguria (Riviera of Genoa), Piedmont, Lombardy, Venice, and Emilia. Lying between the Alps and the Apennines is the wide plain which forms the basin of the Po. This is shut in all round from Mentone to the Gulf of Trieste by the towering Alpine wall, called from W. to E. the Maritime, Cottian, Graian, Pennine, Helvetian, Rhætian, and Carnic Alps. The highest point is the Gran Paradiso (13,652 ft.), a peak of the Graian Alps. The loftiest summits of the Alps are not included in Italian territory. To the S. of the Alps, in the N. of Lombardy and Venice, lie the beautiful Italian lakes, Lago di Garda, Maggiore, Como, Lugano, and Orto. The fertile plain of Lombardy, as already mentioned, is watered by the Po, which rises near Monte Viso, and is enriched on its way to the Adriatic by numerous tributaries and mountain torrents. The province of Venice, to the N. and E. of the Po, is traversed by the Adige, Brenta, Piave, and Tagliamento. Along the coast of the Adriatic, N. and S. of the Po delta, there exist large tracts of salt water, known as lagoons, in a flat and marshy district. They are separated from the sea by narrow banks of sand in which are inlets, so that the lagoons serve as harbours. The chief of these is that in which Venice is situated. It extends over nearly 40 m. from Torcello in the N., Chioggia and Brondolo in the S. The other coast-line of Northern I. is formed by a narrow strip of land, closed in by the steep, abrupt rocks of the Apennines, and known as the Italian Riviera.

The geography of Central and Southern I. is mainly determined by the Apennine range, which extends for about 750 m. The culminating point of the border range between Northern and Central I. is the Monte Cimone (7110 ft.). The Apennines in Central I. are broken up into many short ranges [illegible]

The chief [illegible] (5590 ft.), [illegible] (7663 ft.), [illegible] and Pizzo d [illegible] culminating [illegible] is Monte Co [illegible] Sasso d'Ital [illegible] to the gener [illegible] five provinces of Tuscany, Rome, Umbria, Marches, and Abruzzi. The first named is watered by the Arno,

Cecina, and Ombrone, all rising in the Etruscan Apennines and flowing into the Tyrrhenian Sea. But the most important river of Central I. is the Tiber, the river of Rome, which is navigable for 90 m. The chief lakes of this region are the Lago di Celano, and Lago Trasimeno, while the Lago di Bolsena, Lago di Vico, and Lago di Bracciano occupy crater-shaped basins of extinct volcanoes. The volcanic tract extends from the Monte Amiata (5690 ft.) in Tuscany to Vesuvius (nearly 4000 ft.), a detached volcanic cone (active) in Campania. On the W. the Apennines slope down to the Pontine marshes, S. of Rome, which is connected with the Terra di Lavoro, the [illegible] Campania, and on the E broad Apulian plains. The of Southern I. are Campania, Apulia, Basilicata, and Calabria. The main ridge of the Apennines is continued due S. by the Monte della Maddalena, culminating in the Monte Pollino (over 7000 ft.). The low hills N. of the Gulf of Taranto, between the 'heel' and the 'toe' of I., are of Pliocene formation, while the Calabrian Hills are a broken limestone range where the height rises to 6000 ft. in La Sila, a densely wooded granite mountain, the highest peak being Aspromonte (6420 ft.). The rivers of Southern I. are not of great importance. The Garigliano flows in a westerly direction into the Gulf of Gaeta, about 15 m. from the mouth of the Volturno. The Sele is a short river flowing into the Gulf of Salerno. The chief rivers which flow into the Gulf of Taranto are the Agri, Vasiente, and Bradano. The rivers of the E. coast are numerous, and are all short and rapid, the principal, S. of the Po, being the Foglia, Metauro, Esino, Chienti, Tronto, Sangro, Trigno, Biferno, Fortore, Cervaro, and Ofanto. The coast-line along the Adriatic is practically unbroken but for the promontory of Gargano. The islands of I.—Sicily, Sardinia, Elba, the group of Lipari Is., N. of Sicily, Giglio, Capri, etc.—are dealt with at length in separate articles. The harbours of the Adriatic are Venice, Ancona, Brindisi, Barletta, and Bari; the large harbours belong to the western shore—Genoa, Spezia, Leghorn, Civita Vecchia, Naples—and in the S. is the fine harbour of Taranto. The capital of I. is Rome, and its principal inland towns are Turin, Milan, Mantua, Parma, Modena, Bologna, Florence, Lucca, and Palermo (*see* separate articles).

Climate.—The climate of I. is in general hot, but is tempered by its long coast-line, while on the uplands it is cool and pleasant. There are great differences in temperature and atmosphere between Northern and Southern I. The plain drained by the R. Po has the most extreme cold, while the Italian Riviera enjoys a warm, sunny climate all the year round. The Adriatic coast is exposed to biting N.E. winds, but Tuscany and Rome, and the greater portion of the western half of the peninsula, enjoys a mild winter and has a very hot summer. The rainfall during the summer months is slight, but there are heavy rains in late autumn. A large portion of I. suffers terribly from malaria, the chief areas so affected including the marshes of Grosseto and Orbetello, the Roman [illegible] Pontine marshes, and [illegible] tween the Gulf of [illegible] the Gulf of Taranto. Efforts have been and continue to be made by the government to mitigate the evil by improving the drainage and by combining agricultural improvements with hygienic advantages.

In the northern plains of I. no plants and trees thrive which cannot endure the frosts of winter. Along the Riviera of Genoa the climate is extremely favourable for the growth of olives, oranges, lemons, date-palms, and citron trees, which are also found in great profusion in the S. The mulberry is grown extensively in Tuscany and elsewhere, and there are many vineyards on the lower slopes of the Apennines. The sugar-cane, cotton-plant, prickly-pear, pomegranates all flourish in the warmer regions. In the forests and on the mountain sides are found the chestnuts, cypress, laurel, myrtle, oleander, arbutus, and evergreen oak. Agriculture is the chief industry of the country, about 70 per cent. of the total area of I. being under cultivation. The principal corn-crop is wheat. It is estimated that 18 per cent. of the land is devoted to this production. The produce of wheat in 1911 was 104,724,000 cwt. Next in importance is the cultivation of maize (1911, 47,510,000 cwt.), which furnishes the staple diet of the people. Rice is grown extensively in the Po valley, and oats, barley, and rye are also valuable crops. The cultivation of grass and green forage is extensive, and in some districts as many as nine crops have been reaped from the same field in one year. The vineyards of I. occupy about 15 per cent. of the total area, and in 1907, 1,232,000,000 gallons were produced. The quality of Italian wine is not very good, however, the best in repute being Marsala, grown in the W. of Sicily; Chianti, a Tuscan wine; and Asti. There is an increasing export trade

in live stock, and the large produce of milk in the country gives rise to a large trade in cheese. The best known varieties of Italian cheese are Gorgonzola, Stracchino, and Parmesan. A great variety of fruit is grown—oranges, lemons, figs, peaches, apricots, and prickly pear. Almonds are cultivated in the S. and in Sicily and Sardinia, and hazel nuts, pistachios, walnuts, and chestnuts are among other products. The mulberry tree is cultivated on account of its leaves which serve as food for silkworms. The breeding of silkworms is of great importance in the northern provinces of Lombardy, Piedmont, and Venetia, where silk is manufactured to a great extent in the large towns. Other important industries are the manufacture of thread, cotton, wool, chemicals, jute, glass, and ceramic wares. Machinery of all kinds is manufactured at Terni, Savona, Naples, and elsewhere. The manufacture of tobacco is a government monopoly. I. has also tanneries, breweries, paper-mills, straw-hat factories, engineering workshops, chemical works, etc. In 1908 26,787 vessels carrying 109,825 men were engaged in the fishing industry. The chief minerals found are sulphur, zinc, coal, iron, and lead. In 1909 there were 714 mines in operation, on which mines were engaged 50,587 persons. The chief imports are foodstuffs, coal, iron, hides, rubber, and silk-cocoons. The chief exports are fruit (dried and fresh), wine, olive oil, hair, straw hats, worked coal, raw silk, cotton tissues, and silk tissues. The monetary unit is the lira of 100 centesimi; intrinsic value 1 franc, *i.e.* 25·22=£1 sterling. The coins in circulation consist of gold, 20-, 10-, and 5-lire pieces; silver, 5 and 2 lire; 1 lira and 50 centesimi; nickel, 25 and 20 centesimi; and copper, 10, 5, 2, and 1 centesimi. The construction of railways dates from 1840, when a line was opened from Naples to Castellammare. Now there are two main lines running the entire length of I. along both sides of the Apennines and connected with the lines of the northern plain, [illegible] minor lines, the lines 10,618 m. [illegible] state control, while the minor ones are run by companies. The principal canals are in the valley of the Po, connecting Milan to the Po, Adda, and Ticino. The delta of the Po is so much obstructed with sand that navigation from the sea to the river is carried on by means of the three canals, Canale Bianco, Po di Primaro, and Po di Volano.

I. is a constitutional monarchy, in which the executive is vested in the king and the legislative power is held jointly by the king and parliament. The latter consists of a Senate, formed of princes of the blood and senators above forty years of age, who are nominated as life-members by the king (in 1911 there were 380 senators, including six members of the royal family), and of a Chamber of Deputies of 508 popularly elected members. Military service is compulsory for all male citizens for a period of nineteen years. The permanent army in 1911 consisted of 3,500,000, with about 734,000 in the reserves; while the mobile militia was numbered at 326,000, and the territorial militia at 2,275,631. The navy in 1911 included four dreadnoughts (all building), eight first-class battleships, ten armoured cruisers, and forty-six modern torpedo boats. During the latter half of the 19th century the Austrian War and colonial and military expenditure, outlay on public works, etc., were a great burden to the Italian government, the deficit for the year 1866 amounting to £28,840,000. The state finances have since considerably improved, but there is a heavy national debt, which, in 1911, stood at 508,471,651 lire. The revenue for 1910-11 was 2,684,873,689 lire, and the expenditure 2,574,463,776 lire.

Education, controlled by the state, is under a minister of public instruction, assisted by a council. Primary education is free and compulsory, and the state also maintains partly or wholly secondary, technical schools, and the universities. In 1910-11 there were 4017 students in the thirteen universities. Private schools may not be opened without state authorisation. The Roman Catholic Church is re-organised as the state church, but toleration is granted to all creeds. Over 97 per cent. of the population is Roman Catholic. By the Act of 1871 the rank of the pope as a sovereign prince is recognised, the Vatican and Lateran palaces and the papal villa at Castel Gandolfo having the privilege of exterritoriality. Protestants number about 66,000, which include some 22,000 Waldensians; and there are about 38,000 Jews, and about 2500 members of the Greek Orthodox Church. At the first general census (1871), taken after the unification of the kingdom, the population was 26,801,154. In 1881 it had increased to 28,459,628, and in 1901 to 32,965,504. In 1910 the population was estimated at 34,947,865.

For general statistics consult *Annuario statistico Italiano*; W. Deecke, *Italy: a Popular Account of the Country, its People, and its Insti-*

tutions (Eng. trans. by H. A. Nesbitt), 1904; Beauclerk, *Rural Italy*, 1888; King and Okey, *Italy of To-day*, 1901; Nathan, *Vent' Anni di vita italiana Athaverso all' Annuario*, 1906; Fischer, [illegible], 1901; *Italia, Year-Book*, 1913.

History.—The name of I. was, until 49 B.C., confined to the narrow southern extremity or 'toe' of the peninsula, the district lying between the gulfs of Squillace and Euphemia. During the republic the word was applied to the whole country S. of the Apennines, and ultimately was used to include the whole of the peninsula. The early history of I. is inseparable from that of Rome, which is dealt with in a separate article. Under the wise administration of Augustus, I. was for the first time dealt with as a whole, and its unification thus gradually took place. Roman rule of the peninsula continued up to 476 A.D., when Odoacer, leader of the Herulian mercenaries, deposed the young Romulus, last Augustus of the Western empire, and placed the kingdom under the rule of Zeno, the Byzantine emperor. Odoacer, who had been pronounced 'patrician' by the emperor and 'king' by his soldiers, ruled in I. until he himself was conquered and deposed in 493 by Theodoric, King of the Ostrogoths. Theodoric was a wise and just ruler, and respected the ancient language, customs, and even laws of Rome, and chose his ministers from among the Roman population. But he was an Arian, and though he granted toleration to Roman Catholicism, at his death (525) the people of the S. welcomed an invasion of Belisarius and Narses, sent by Justinian to reconquer the country. The Goths, however, continued to hold sway in the N. until after a long and bloody strife Teias, the last king of the Goths, fell in battle near Vesuvius (553). I. was now placed under an exarch, or governor-general, who ruled at Ravenna in the emperor's name. In 568 the Lombards, who had been employed by Narses a[illegible] swept down upon I. fro[illegible] the leadership of their [illegible] Pavia was captured [illegible] years' siege, and made the new kingdom. The Lombards spread S., and formed the two duchies of Spoleto and Benevento, but lacked the strength to occupy Rome, Ravenna, Venice, the islands of Sicily, Sardinia, and Corsica, and the important sea-towns, all of which were still held by the Eastern conquerors. The rule of the Lombards, who were Arians, was very oppressive, until Gregory the Great (590-604) converted them to orthodoxy and established Rome as the rallying point of the old nation. There was no central power in I., so that when Leo the Isaurian issued his decree against the worship of images (726), Gregory II., the champion of the native population, declared the Roman independence of the East, and for a time threw in his lot with the Lombard king. King Liudprand (712-44) wished to impress his regal authority upon the bishops as well as upon his troublesome dukes and the Byzantine exarchs. He was resisted by Gregory's successors, who called in the help of the Franks. In 756 the Lombards were defeated by Pepin, who captured Ravenna, Pentapolis, and several cities in Romagna and Spoleto, which he yielded to the pope, thus founding the temporal sovereignty of the Roman Church. The conquest of the Lombards was completed by Charlemagne, Pepin's son, who deposed his father-in-law, Desiderius, the last Lombard king, in 774, and was crowned emperor of the Romans in 800 by Pope Leo III.

The southern cities and Sicily still remained under the rule of the Eastern emperor, and were undisturbed by the Frankish conquest of the N. The Carolingian line ended in 888 with the deposition of Charles the Fat. The following seventy-four years was a period of misrule and anarchy. Ten feudal nobles in succession were the nominal rulers of Northern I., but were totally unable to maintain order. The Greeks once more established themselves in Lombardy, and under the leadership of Catapan held sway in the S. till 1043. Before the end of the 9th century, hordes of Saracens began to overrun Sicily, Calabria, and Apulia, while in the 10th century the plains of Lombardy were laid waste by the invasions of Magyars and Northmen. The papal influence had declined, for the holy chair had become associated with infamous living and intrigues. Berengar II., the last of the so-called Italian emperors, had to contend with ambitions, self-seek[illegible], as well as with countless [illegible]bles who had established each within his castle, [illegible] to resist any one who to curb their power. The German king of Saxony, Otto the Great, was called in by the enemies of Berengar, who was forced to pay tribute and acknowledge Otto as his overlord. [illegible] of weakn[illegible] more impo[illegible] was deposed. I. being now considered as a fief of the German empire.

About this time, when I. was

a divided country, governed by foreigners from a distance, the Lombard cities of Milan, Pisa, Genoa, Venice, and Florence began to rise in power and to gain some degree of independence. They built walls to protect themselves from barbarian invaders; they shook off the despotism of the petty counts; and the eastern trade, which had been enjoyed by the cities of the S. prior to the Saracen invasions, now came into their hands. The Saxon emperor encouraged this spirit of municipal independence, which crushed the power of the turbulent counts. Moreover, the vicious lives of the recent popes had given rise to such scandals that Otto determined to put a stop to the disaffection in Rome, and, taking the power of election out of the hands of the Romans, himself appointed a pope. His son and grandson, Otto II. and Otto III., however, had not his powers of discipline, and on the death of the latter in 1002 Ardoni, Marquis of Ivrea, claimed the crown and was supported by Lombardy and Pavia. The Saxon dynasty, however, continued in Henry of Bavaria, who gained the alliance of Milan, and crushed her rival, Pavia. On Henry's death in 1024, Heribert, Archbishop of Milan, offered the crown to Conrad, the Franconian king of Germany. During this century there should be noted the gradually increasing power of the *commune*, a word first used in connection with Milan. The citizens of that city united in a *parlamento*, and were supported by Heribert, to whom is also attributed the invention of the *carrocio*—the car, bearing the standard of the burgh, and an altar with the host, which was carried into battle like the ark of the Israelites.

The Saxon policy of interference in the papal election was followed by Conrad's successor Henry III., who, finding three popes in Rome, abolished them all, and bestowed the see on a German bishop of his own choosing. During the minority of his son, Henry IV., who succeeded him in 1056, Archdeacon Hildebrand of Soana, afterwards Pope Gregory VII., threw his energies into strengthening the power of the papacy He determined to throw off the yoke of the German Emperor and the Tusculan counts by enforcing the celibacy of the clergy, by abolishing the investiture of ecclesiastics by secular authority, and by vesting the papal election in the hands of the Roman people under the guidance of the clergy. During the ensuing faction between pope and emperor, Gregory was supported by Robert Guiscard and his son Roger, Norman adventurers who had occupied Apulia, Calabria, and Sicily, and had strengthened their hold on these dominions by obtaining papal investiture of lands which they agreed to hold as fiefs of the Holy See. In 1084, when Henry IV. seized Rome, Pope Gregory was relieved by Guiscard and retired to Salerno, where he died in 1085. Gregory had had also a powerful ally in Countess Matilda of Tuscany, who bequeathed her vast possessions to the papacy (1115), which later helped to consolidate the temporal power of the church. Henry IV. died in 1106, but the War of Investitures was continued by his successors, and ended in the Concordat of Worms (1122), whereby the emperor abandoned his authority over papal elections.

For many years the reins of power were held very slackly in the hands of Lothar, the Saxon (1125-37), and Conrad, the Swabian (1138-52). The latter, in fact, never set foot in I. at all. During this period the northern cities waxed strong, and waged war upon each other. Each city was a single republic; the bishops were superseded by consuls, who, assisted by a council of burghers, administered the law. Rome shook off for a time the sway of their bishop, and under Arnold of Brescia established a republic with a senate on the lines of ancient Rome. On the death of Conrad, his nephew Frederick, surnamed Barbarossa, was elected emperor. Under his rule the old feud between emperor and pope was renewed. He crossed the Alps in 1154, determined to exercise his imperial rights and to put an end to the warfare of the cities. Milan at once rose up in arms against him, but Frederick, after laying waste some smaller cities, marched on Rome and was crowned by Adrian IV. (Nicholas Breakspear), the only pope of English birth. He then returned to his own country, while Milan punished Pavia for having supported him. In 1158 Frederick marched upon that rebellious city and forced it to surrender. But in 1159 Milan was again in revolt, and after a lengthy siege was laid waste and the inhabitants driven from their wrecked houses (1161). Frederick did not set up his own officials (*podestàs*) in the more important towns. This action caused them to bury their grievances and jealousies, and unite in one league, called the League of Lombardy, against their foreign ruler. They built a new city, which they named Alessandria, after their staunch ally Pope Alexander III., whom Frederick had driven from Rome in 1167. This city was established between Pavia

and Montferrat, the stronghold of the imperial troops. Alessandria withstood a siege during 1174-75, and in 1176 the allied forces inflicted a crushing defeat upon Frederick at the battle of Legnano. In 1177 the emperor made terms with the pope for a six years' truce, and in 1183 a permanent peace was ratified by the treaty of Constance, which granted to the Lombard towns the right of war and self-government, while the emperor retained his supreme courts of justice within their walls and his right of sustenance at their expense for the imperial retinue and troops. During the short reign of Frederick's successor, Henry VI., the strife between Guelphs and Ghibellines broke out in I. In Germany it had stood for a quarrel between two rival dynasties, but in I. the Guelphs represented the papal party, *i.e.* Rome and the League of Lombardy, while the Ghibellines stood for the imperial party. *The pope's quarrel with* Henry was due to his marriage with Constance, heiress to the Norman dynasty in Sicily. On Frederick's death (1190), Henry laid claim to the whole of I. and the two Sicilies, his claim being acknowledged in 1194. He died three years later, and his wife, who died in 1198, left their infant son to the guardianship of Innocent III. During Frederick's *long minority*, the power of the pope extended as far as Constantinople at the time of the fourth Crusade (1198-1204). The spoils of war were shared with Venice, who had volunteered her fleet for the transport of men. Thus Venice became established as one of the most powerful commercial cities of the Mediterranean. In 1220 Frederick II. was crowned king and emperor, the virtual ruler of Germany, I., the Sicilies, and Jerusalem. He made a determined effort to crush the league and subdue the pope, but, powerful though he was, the powers pitted against him were too strong. In 1237 he defeated the Milanese at Cortenuova, but was harassed throughout his reign by plots and intrigues. Pope Gregory IX. excommunicated him in 1227, and Innocent IV. declared him dethroned at the council of Lyons in 1245. He died in 1250, and was succeeded in Sicily by his natural son Manfred, who, after some brief successes, was deposed by Charles of Anjou,
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radin, grandson of Frederick II., but in 1266 he was defeated and beheaded at Naples, the Swabian line thus coming to an end. In 1273 Rudolph of Hapsburg was crowned emperor by the pope, and five years later made a public recognition of the pope's temporal sovereignty in Emilia, Romagna, the March of Ancona, the Compagna of Rome, and the Patrimony of St. Peter, *i.e.* in the papal states. The Guelphic party was now supreme in the N., but lost much of their influence in the S. when Sicily rebelled against Charles of Anjou and placed itself under Aragonese rule (1282). At the end of the century the Guelphs of Florence were divided into two factions—the Neri and the Bianci. In 1300 Boniface VIII. called in Charles of Valois, who banished the latter faction and then undertook to manage the affairs of the republic. In 1309, the pope, Clement V., being a Frenchman, the seat of the papacy was transferred to Avignon, where it remained till 1377.

This period of nearly seventy years was marked by great *commercial prosperity. The rich burghers* lived in solid prosperity. The northern towns still made war upon one another, but the burghers paid companies of adventurers, *condottieri*, to do the fighting. The rural counts lost their power and became citizens of the towns, and the office of *podestà* was now practically that of a judge. In many towns his place was taken by a new functionary, the *captain of the people*, who was a leader of Guelphs or Ghibellines, whichever party was in the ascendant, and whose powers, being ill-defined, tended to become unlimited. During the 14th century five principal powers came into evidence and divided the peninsula—the papacy, the kingdom of Naples, the duchy of Milan, the republic of Florence, and the republic of Venice. Genoa struggled for over thirty years with Venice for the supremacy of the Mediterranean, but was crushed by the end of the Chioggia War (1381), and Pisa's maritime power was extinguished in the battle of Meloria (1284). The two Sicilies, which had been divided in 1282, were reunited under Alfonso V. of Aragon on the death of Joan II., the last of the Angevin line in Naples (1435). His reign, which lasted for twenty-three years, was one of undisturbed prosperity and peace. He was succeeded in Naples by his natural son Ferdinand, and in Sicily and Aragon by his brother John. In the N. the popes lost their prestige as Italian potentates by the removal of the Holy See to Avignon. Rome nominally obeyed her bishops, but the temper of the times was shown in the brief republic (1347-54) set up in the city by Rienzi on semi-

classical, semi-feudal lines. The duchy of Milan was governed by the powerful Visconti dynasty till 1447. The city was bought from Louis of Bavaria in 1328 by Azzo, who was succeeded by his uncle, the famous Archbishop Gian Visconti (*d.* 1354). Under this powerful prelate the duchy gained a conquest over Genoa and a large portion of Northern I. His grand-nephew, Gian Galeazzo, extended his domains to the borders of Venice and of Florence. In 1402 his son, Filippo, succeeded to the title and the power, but though he was an ambitious prince, he had not the ability to carry out his father's schemes of foreign conquest. The duke died in 1447, and for a brief period the ancient republic of Milan was re-established. But in 1450 Filippo's son-in-law and general, Francesco Sforza, seized the Viconti's possessions with the aid of his Florentine ally, Cosimo de' Medici, and proved himself to be a wise and liberal-minded ruler. He curbed the cupidity of his subjects for foreign conquest, thus securing the balance of power in Northern I. Until 1343 Florence had been subject to an adventurous foreigner, Walter of Brienne, Duke of Athens. For the following hundred years, with the exception of a short-lived revolution of artisans, the city was governed by an oligarchy headed by the Albizzi family. During this period Florence achieved the subjection of Pisa and extended her domains in Tuscany. But the oligarchy was opposed to the wealthy and democratic family of Medici. In 1434 Cosimo de' Medici established a republic of which he assumed the presidency. He strengthened his position by making the alliance with Francesco Sforza mentioned above. The presidency maintained by Cosimo became a dictatorship under his grandson, Lorenzo the Magnificent. The history of Venice was very different from that of the other great Italian states. In the 11th century the administration lay in the hands of the popular representative, the doge. After a series of revolutions, however, the oligarchical principle was established, and in 1311 the Council of Ten was formed. Venice, while extending her commerce and making territorial conquests in the East, did not take much part in Italian affairs. In the middle of the 14th century she began her struggle for maritime supremacy, which ended in victory (1381). In 1406 Venice added Verona, Vicenza, and Padua to her Italian possessions, and during the long dogeship of Francesco Foscari (1423-57) extended her dominions in the mainland. The capture of Constantinople (1453) necessitated the strengthening of her position at home to keep off the attacks of the Turks. The need of confederation was great, and Pope Nicholas V. proposed that the five powers should unite against their common foe, but the danger not being imminent, his appeal was disregarded. I. was now divided into a number of commonwealths. One and all governed by an oligarchy or an Italian prince, but the individual enjoyed liberty, and every encouragement was given to the common enthusiasm for literature and art which the renaissance had awakened.

Peace lasted till 1494, when a new age opened for I. Throughout the following century the country was a battlefield on which France and Spain fought out their quarrels and strove for new conquests. In 1494 Charles VIII. of France invaded I. at the request of Lodovico Sforza, who was anxious to become Duke of Milan. Charles, after having the Medici expelled from Florence, marched S. and was crowned in Naples. In the meantime Lodovico assassinated his nephew, Gian Galeazzo, and raised Lombardy against Charles, who with difficulty made good his retreat to France. The way was now opened up to other invaders. In 1499 Louis XII., the successor of Charles, subdued Milan, but his hopes of conquest in Naples and Sicily were frustrated by his false friend, Ferdinand the Catholic, who made himself supreme over the two Sicilies. In 1504 Louis invited the Emperor Maximilian to assist him in the conquest of Venice. In the confusion the papacy made a most determined and successful defence against the foreigners. The ambitious and self-seeking prelate, Alexander VI., extended his personal domains in Central I.; his powerful successor, Julius II., was determined to reinstate the temporal sovereignty of the Church. This he attempted to do by playing off the different parties against each other, thus hoping to weaken all. In 1508 he formed the League of Cambrai with France, Spain, and Germany against I., and in 1512 he combined the forces of Spain, Venice, and Switzerland against France at the battle of Ravenna, which secured the expulsion of the French from Lombardy. The French returned, however, in a few years. In 1515, their new king, Francis I., was victorious at the battle of Marignano, and entered Milan, but in 1524 was expelled by the troops of Emperor Charles V., who had succeeded to the crown of

Spain and Lower I. At the battle of Pavia (1525) Francis was taken prisoner. For seven months of 1527 the imperial troops, composed of [illegible] iers, sacked

wars ended (1529), by which Charles V. was left in possession of I. In 1537 the French took possession of the territories of the dukes of Savoy, but these were ceded to Philip, the son of Charles V., by the treaty of Câteau-Cambresis (1559). Venice, Genoa, Lucca, and San Marino were allowed to retain their *independence*.

Until the end of the 18th century it may be said that I. now ceased to have a history of her own. Wars in which she had no interest, but was the patient sufferer, continued to be fought on her soil. Venice regained some of her lost power by the conquest of the Peloponnesus (1684), but this was recaptured by the Turks in 1715. Piedmont was ceded by Spain to Emmanuel Filibert, who regained Savoy and Nice. The War of the Spanish Succession (1701-13) led to a redistribution of Italian land. By the treaty of Utrecht (1713) Austria succeeded to the Spanish dominions, and Sicily was given to Victor Amadeus, Duke of Savoy, with the title of king. In 1720 he had to yield that island to Austria in exchange for the kingdom of Sardinia. I. was subjected to a further redivision at the end of the War of the Austrian Succession. By the treaty of Aix-la-Chapelle (1748), Milan, which had been captured by Austrians in 1714, was ceded with Tuscany to the House of Austria; the Bourbon, Charles [illegible] was confirmed *in his kingdom o* two Sicilies; his brother, Don P[illegible] was given the duchy of Parma; Piedmont and Sardinia remained in the hands of the house of Savoy; and Modena and Genoa were placed under the protection of France, to whom the Genoese surrendered Co[illegible] 1755.

For forty-four years I. peace. Tuscany was ruled by lieutenants until the death of Francis I. in 1765, when his second son, Peter Leopold, afterwards Emperor Leopold II. (1790), was made grand duke. His rule was characterised by its agricultural improvements, suppression of the Inquisition, and wise reforms. He performed a lasting benefit to his subjects by draining the Val di Chiana. The rule of Maria Theresa in Lombardy was also remembered as a period of internal peace. [illegible] was given [illegible], taxes were [illegible], and order was maintained, a certain amount of local autonomy was allowed. Her successor, Joseph II., instituted wider reforms, but his administration was not so popular. A large portion of I. suffered under the harsh despotism of the *Bourbons*. Whether prosperous or oppressed, I. was divided up among several princes, and had no feeling of nationality.

The chief event after the treaty of Aix-la-Chapelle was the invasion of I. by the French Republican armies in 1796. In the following year the Emperor, Francis II., was forced to sign the treaty of Campo Formio, by which Venice and the territories N. of the Adige were given to Austria, and the rest of Northern and Central I. was divided up into republics, such as the Cisalpine, Tiberine, Ligurian, Cispadane, and Parthenopæan republics. The great cities were filled with a wild hope of liberty, but they soon discovered that their freedom was but nominal under the presidency of Napoleon Bonaparte. In 1799 the Russian troops gained a victory at Trebia, and in 1800 Napoleon crossed the Alps and confirmed his previous victories at the battle of Marengo. The Cisalpine republic was declared, the *Italian* republic in 1802, and Napoleon was crowned King of I. at Milan in 1805. In the following year Napoleon made his brother, Joseph, King of Naples, and gave Tuscany, Lucca, and Piombino to his sister, Eliza (1809). Eugène Beauharnais was left in charge of affairs as viceroy, but the repeated attacks of the Austrians in 1813-14 weakened his power, and at the overthrow of Napoleon in Paris (1814) the kingdom [illegible] pieces. At the (1815) the allies country among themselves. The Lombardo-Venetian kingdom was formed for Austria; Tuscany, Modena, and Parma were given to the Austrian princes, Ferdinand III., Francis IV., and Maria [illegible] Genoa was [illegible] mmanuel I., two Sicilies were restored to the Bourbon, Ferdinand II., and the pope was left in possession of the papal states.

The result of the Napoleonic invasion of I. was that the rule of the petty princes was more oppressive than ever, but national pride had been aroused and had given birth to a great hope for the future unity and self-government of the whole country. Secret societies, the most important of which was the Carbonari, flourished among the educated classes; risings broke out in the S. (1820); and in Romagna many suspected persons were condemned to exile, imprisonment, or death (1825). In 1831 the

fiery young patriot, Giuseppe Mazzini, organised a political society called Giovane Italia (Young Italy) for the emancipation of his country. He hoped that the new king of Piedmont, Charles Albert, might be induced to make war upon Austria, and thus liberate I. When Charles Albert refused to do any such thing, Mazzini made a futile raid on Savoy, which resulted in many of his followers being barbarously put to death. Mazzini came to London, from which, by means of literature, he actively propagated his republican theories among his countrymen. The more moderate Liberals, as is shown in the writings of Leopardi and Foscolo, despaired of the future of I. In 1848, the year of revolutions, insurrections broke out in Lombardy, the Austrians were driven out of Venice, and Sicily revolted from Ferdinand. Charles Albert won some minor successes, but before the end of the year the Austrians won the battle of Custozza, and placed the country under martial law. Pope Pius IX., who since 1846 had passed certain measures of reform, was torn asunder between his desire to support Italian freedom and his fear of making war on Catholic Austria. His authority, in consequence, weakened daily; he was declared traitor, and fled in disguise to Gaeta. Mazzini hurried back to Rome, and a republic was set up with him and two triumvirs at its head. In 1849 Charles Albert received a crushing defeat from the Austrians under Radetzky, and abdicated at Novara, leaving his son, Victor Emmanuel II., to make the terms of treaty. Lombardy reverted to Austria, and a part of the Piedmontese territory was also ceded. In the same year Leopold and Ferdinand, who had joined the pope at Gaeta, returned to take up the reins of government now that the insurgents were quelled. France decided to restore Rome to the pope and sent General Oudinot to besiege the city. He was defeated at Civita Vecchia by Garibaldi, recently returned from exile in S. America. The Neapolitans, augmented by Spanish soldiers, marched northwards, and were also defeated by Garibaldi at Palestrina and Velletri, but in spite of these successes the French troops succeeded in entering Rome, and the pope returned in 1850. Meanwhile Daniel Manin had been bravely holding Venice against the Austrian army; but being blockaded by land and sea, the city was reduced by famine and surrendered.

The desire for a united I. increased yearly, and Victor Emmanuel II. was regarded as the hope of the national cause, but the Piedmontese army was badly disorganised, and the recent war had emptied the exchequer. At this time of despondency, almost of despair, Cavour came into prominence as the champion of the national movement. In 1852 Victor Emmanuel appointed him prime minister. The Società Nationale was formed, with the motto 'Unity, Independence, and Victor Emmanuel.' The king and Cavour secretly encouraged the movement, though their only avowed aim was to expel the foreigner out of I. In 1858 Cavour entered upon negotiations with Napoleon III. which resulted in the outbreak of a Franco-Austrian War (1859). In the same year the Austrians were defeated at Montebello, Palestro, Magenta, and Solferino; provisional governments were established in Florence and Modena; and an insurrection broke out in the Papal States. Without consulting his Italian allies, Louis Napoleon made a treaty with Austria in July, by which Victor Emmanuel had to surrender Savoy and Nice. This peace was followed by great agitation among the Central States of Lombardy, Romagna, Tuscany, Modena, and Parma, which in 1860 declared themselves annexed to Sardinia. S. Italy now rebelled against Francis II., the son of Ferdinand, and was assisted by Garibaldi, who won victories at Calatifimi and Melazzo. Assuming the title of dictator, he entered Naples in Sept. 1860, Francis having fled. The united troops of Garibaldi and Cavour defeated the Papal States at Castelfidardo, and the Neapolitans at the Volturno. Sicily and Naples were annexed to Sardinia in October, and Garibaldi hailed Victor Emmanuel as 'King of Italy.' In 1861, at the assembly of the first Italian parliament in Turin, Victor Emmanuel was decreed King of I., and Garibaldi resigned from his dictatorship. In this same year Cavour died. Rome was still held by the pope, and the Austrians were in possession of Venice. In 1862 Garibaldi raised troops to liberate Rome, but was defeated at Aspromonte, and Roman Catholic opinion throughout Europe was opposed to the annexation of Rome to the new kingdom. French troops had held that city since in 1849. By the Franco-Italian Convention of 1864, the French agreed to evacuate Rome within two years, on condition that the Papal States were recognised, and the capital of I. was moved from Turin to Florence. At the outbreak of the Austro-Prussian War (1866), I. formed an alliance with Prussia, and although Garibaldi and his volunteer troops were defeated at Monte Suello and the Italian troops by sea at Lissa'

and on land at Versa, when peace was signed Austria abandoned Venice, which the king entered in triumph on Nov. 7, 1866. In 1867, in spite of the agreement of 1864, Garibaldi made several attacks on Rome, and consequently Napoleon sent back his troops, who defeated the Garibaldians at Mentana. Rome continued to hold out until 1870, when, during the Franco-Prussian War, the Italian army under General Cadorna, after a brief resistance, entered the city. In 1871 Rome was inaugurated as the capital of the kingdom, but the pope, Pius IX., refused to abandon his temporal sovereignty, and withdrew as a voluntary prisoner to his own domains, which were allowed the privilege of exterritoriality.

The consolidation of I., since the formation of the kingdom, has been slow and difficult, owing to the great social differences between N. and S. I. has, too, been ambitious to be recognised as one of the great powers of Europe, which involves a vast outlay in expenditure. In 1878 Victor Emmanuel died, and was succeeded by Humbert I. (*b.* 1844); Pius IX. being succeeded by Leo XIII. in the same year. Humbert's reign was characterised by electoral reform (1881) and foreign colonisation. Somaliland, along the N.E. coast of Africa, was acquired between 1880 and 1890, and the dependency of Eritrea was founded in 1882. I.'s claims to a protectorate over Abyssinia led to war, which ended in an Italian defeat at Adowa (1896), and the restoration of all land to Abyssinia by the treaty of Adis Abeba (1896). In 1883 I. entered the Triple Alliance with Germany and Austria, largely owing to her distrust of France. In 1900 King Humbert was assassinated by an anarchist, and was succeeded by his only son, Victor Emmanuel III. I. did not take any part in the expedition of the Powers to China after the Boxer Rising (1900), but by the treaty of 1902 acquired a small area of land (20 sq. m.) on the l. b. of the Peiho. In 1904 there was serious disorder in the N. owing to a general strike, and in 1905 and 1906 there were terrible earthquakes in the S. which caused great distress. At the beginning of the new century I. entered upon more friendly relations with France, the Triple Alliance being still maintained. In the recent dissensions in Morocco (1906-11) she gave her support to France against Germany, while France has acquiesced in Italian ambitions in Tripoli. In Sept. 1911 war broke out between I. and Turkey in connection with the rights and privileges of Italian subjects in Tripoli. In November of the same year the Italian government formally proclaimed the annexation of Tripoli and Cyrenaica, which was ratified by Turkey in the treaty of Ouchy in Oct. 1912. In the Balkan War (1912-13) I.'s sympathies have naturally been with the allies against her recent enemies; the royal family, moreover, is connected with that of Montenegro, Queen Elena of I. being the daughter of King Nicholas of Montenegro.

Consult Bury, *Later Roman Empire*, 1889; Hodgkin, *Italy and her Invaders*, 1892-99; Muratori, *Rerum Italicarum Scriptores* (25 vols.), 1723-51; Gregorovius, *History of the City of Rome in the Middle Ages* (Eng. trans. by Hamilton), 1895-1900: *Archivio storico Italiano* (vols. i.-xvi.), 1838-51; Milman, *History of Latin Christianity*, 1840; Burckhardt, *The Civilisation of the Renaissance in Italy*, 1892; Symonds, *The Renaissance in Italy*, 1875-86; C. Cipolla, *Storia delle Signorie Italiane dal 1313 al 1530*, 1881; Creighton, *History of the Papacy during the Reformation* (new ed.), 1897; Ranke, *History of the Popes* (Eng. trans.), 1842; and *Latin and Teutonic Nations* (Eng. trans.), 1887; Giuseppe Ferrari, *Rivoluzioni d'Italia*, 1858; G. de Castro, *Storia d'Italia dal 1797 al 1814*, 1881; P. Gaffarel, *Bonaparte et les républiques italiennes*, 1796-99 (Paris, 1895); R. M. Johnston, *The Napoleonic Empire in Southern Italy* (2 vols.), 1904; Bolton King, *History of Italian Unity*, 1899; Bolton King and Thomas Okey, *Italy To-day*, 1901; and Orsi, *Modern Italy* (Eng. trans.), 1900; Chas. Capworth, *Tripoli and Young Italy*, 1912.

Language and literature.—Italian is one of the Romance, or Neo-Latin, languages, and is a sister-tongue of French, Spanish, Portuguese, Roumanian, and Provençal. It is naturally more closely connected than any of these with Latin, the language of the Romans, the influence of the written speech of Virgil, Cicero, and Horace lingering for long in the peninsula. Italian grammar is a simplification of Latin grammar, but the popular spoken Latin of the rustic played a very important part in the evolution of the Italian vocabulary. Italian is divided into very many dialects, and the pronunciation of similar words differs very greatly throughout the country. The standard literary and political speech is the Tuscan dialect, which came into prominence during the 14th century, [illegible] by Dante and

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dialetti d'Italia, 1872. *See also* Morandi, *Origine della lingua italiana* (5th ed.), 1891; Ascoli, *Archivio glottologico italiano*, 1873 *et seq.*; Fornaciari, *Grammatica storica della lingua italiana*, 1872; Petrocchi, *Novo dizionario della lingua italiana*, 1884-91, which is wholly in Italian; and the Italian-English, English-Italian dictionary of Edgren, 1902.

No very early documents of Italian literature exist, for the tradition of writing in Latin lingered long, and, moreover, Latin did not differ so much from the vulgar speech as to be unintelligible. The influence of the Teutonic invaders upon the speech of the race they subjected does not appear to have been very great. A much more powerful and lasting influence was that of the French and Provençal troubadours who wandered across the Alps as early as the 11th century and sang their songs of love and war throughout the peninsula. In the early 13th century there grew up round the court of Frederick II. (1194-1250) in Sicily an Italian school of poets who closely imitated the Provençal lyrics both in style and matter. Chief among them were Frederick himself, and his son Enzio (*d.* 1272), Piero delle Vigne (*d.* 1249), and Giacomo da Lentini. But their art was wholly imitative, conventional, artificial, and consequently short-lived. In the latter part of the 13th century the Tuscan tongue came into prominence. Tuscany had this advantage over the rest that its *lingua volgare*, the familiar speech of

dialect which could be understood by the generality of their countrymen. The Siculo-Provençal poetry was imitated by a small Tuscan school, which, with Guittone d'Arezzo (1215-94) at its head, included the humorists and satirists Folgore of San Gimignano, Cene della Chitarra, and Rustico di Fillipo. Guittone abandoned the Provençal chivalric forms, and wrote political and
poems. His great pupil,
Guinicelli (*d.* 1276), wrote phi
cal lyrics, which are int
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Italian poetry. A contempo
his was Brunetto Latini (*d.* 1294), the friend and master of Dante. His *Tesoretto* was obviously influenced by the allegorical poems, such as *Le Roman de la Rose*, which had become popular throughout Europe. Under the same influence was Francesco de Barberino (1264-1348). In Umbria the development of poetry was largely due to the great religious movement brought about by the establishment of the Franciscan and Dominican orders. To St. Francis of Assissi (1182-1226) has been attributed the *Cantico del Sole*, a hymn written in rhythmical prose. The greatest exponents of religious poetry at this time were Jacopo dei Benedetti da Todi and Raniero Fasani. The work of the latter is of no artistic value, but is important as marking the growth of the drama. His *Laudi* were written in dialogue form, and were sung antiphonally as a penance. These and similar liturgical compositions are the earliest form of religious drama that I. possesses. The earliest specimens of Italian prose date from the middle of the 13th century. The *Cento Novelle Antiche* was probably written by a Florentine. It is a collection of short tales drawn from Oriental, Greek, Trojan, and mediæval sources. Francesco Barberino included similar stories in his *Del Reggimento e dei costumi delle donne*. The letters of Fra Guittone d'Arezzo, on moral and religious subjects, are interesting specimens of the *lingua volgare*. In addition we have a number of translations and adaptations of French romances and Latin historical ascetic treatises, an original scientific work on astronomy and geography called *Composizione del mondo*, by Ristoro d'Arezzo; and treatises on government, *De regimine rectoris*, by Fra Paolino, and *De regimine principum*, by Egidio Colonna, who wrote in the Venetian dialect.

The 14th century, called *Trecento*, is the age of a mighty trio—Dante, Petrarch, and Boccaccio. Hitherto, poets and writers had experimented in various dialects, and Tuscan had been proved to surpass the others. The great writers of the 14th century were all Tuscans, and by their use of it made the Tuscan dialect the acknowledged literary medium of speech in I. for all time. Dante's immediate predecessors in lyric poetry were Guido Cavalcanti, whose *Sulla natura d'amore* is a poem on the
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1265-1321),
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Homer and
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becomes a
symbol of divine love. After his first meeting with her the whole aspect of life is changed. This 'new life' forms the theme, also, of the *Canzoniere*. His work culminated in the *Divina Commedia*, a transcendental poem of incomparable beauty. Francesco Petrarca (1304-74) was at the time regarded as the dictator of literature,

and his love for Laura has remained as an inspiration to all succeeding poets of every nationality. But he must not only be studied as the writer of beautiful love-lyrics, but also as the first humanist in I.—the forerunner of the revival distinguished by an enthusiastic study of ancient classic literature. Giovanni Boccaccio (1313-75) had the same zeal for research into the works of antiquity as is testified by his encyclopædic works in Latin on diverse subjects—*De genealogia deorum*, *De casibus virorum illustrium*, *De claris mulieribus*, etc. His narrative poems, *Teseide*, *Filostrato*, and *Ninfale fiesolano*, are far more successful than his lyrics, while his *Amorosa Visione* shows the influence of Dante. His fame rests mainly on the *Decamerone*, a collection of a hundred *novelles*, which are arranged and told with the skill of an artist who is at the same time an observant and sympathetic man of the world.

These three great writers had many imitators. Among Dante's followers must be numbered Francesco Stabile, called Cecco d'Ascoli (1269-1327; *L'Acerba*), Fazio degli Uberti (*Dittamando*), Federigo Frezzi (*Quadriregio*), whose works are chiefly of historical interest to the student. Novel writing had already attained great popularity in France and other countries. The example set by Boccaccio was now closely followed by Giovanni Fiorentino (*Pecerone*, 1378), Franco Sacchetti (*d.* 1399), a moral writer on immoral subjects, and Giovanni Lercambi of Lucca (1347-1424). Though the prose literature of the time is chiefly represented by the tales and novels of these and other men, the chronicle is very important as being the first attempt at historical writing. The greatest historian of the time was undoubtedly Giovanni Villani, who wrote a chronicle of his native city, Florentine, including a review of the world's history from the Tower of Babel down to 1346. He was carried off by the Black Death in 1348, and his work was continued by Matteo Villani (1300-63). Other chronicle writers of note are Marchionne Stefani (*d.* 1385) and Dino Compagni, whose *Cronaca dei suoi tempi* [illegible] in erature

Marco Polo, and the religious sentiment of the time is the letters of St. Cathari (1347-80) and in the collection of the words and deeds of St. Francis. It is a curious fact, however, that during the period succeeding the death of Dante, Petrarch, and Boccaccio, there was a dearth of great writers. This may partly be accounted for by the overestimation of ancient Greek and Latin writers and the consequent under-estimation of works in the vulgar tongue. There was a great demand for translations of classical works, and during the early part of the 15th century Latin was the only acknowledged literary medium for new and original work. Among those who ventured still to write in Italian must be numbered Leon Battista Alberti (1407-72), with his *Della Famiglia*, and Matteo Palmieri (1406-75), with his *Della Vita Civile*. Works of a more popular kind were the prose romances *I reali di Francia* and *Guerino il Meschino* of Andrea Barberino (1372-1431), the burlesque topical *sonetti caudati* of the Florentine, Domenico di Giovanni (*d.* 1448), surnamed Il Burchiello, and the *rappresent azioni sacre*, or religious dramas, which corresponded in some ways to the miracle and mystery plays of England.

In the middle of the 15th century two great events occurred which were of vast importance in the literary history of every European country. One was the fall of Constantinople in 1453, which brought an influx of Greek scholars into Europe; the other was the invention of printing, which did not affect I. till 1464. In 1447 the erudite founder of the Vatican Library was made Pope Nicholas V., an election which gave great impetus to the study of antiquity. Another event which influenced Italian literary history was the foundation of the Roman Academy and the Florentine Platonic Academy, the latter of which made the important declaration that Italian was equal in literary merit to Latin. Moreover, in the great centres of literary activity there were growing up young men of genius who

de' Medici (1448-92), prince, poet, and patron of literature. His works include: *Ambra*, an Ovidian allegory; *La Caccia col Falcone*, *La Zeucia di Barberino*, the *Canti Carnascialeschi*, carnival songs of a somewhat licentious character, a number of elegant love poems, besides pastorals and satires. He not merely en- by his personal example, popular literary forms, but d into them the culture of issance. The most distinguished of the men of letters who frequented Lorenzo's court in Florence were Luigi Pulci (1431-87) and Angelo Ambrogini (1454-92), commonly

known as Politian. To the former we are indebted for the *Morgante Maggiore*, a humorous epic in *ottava rima*, which contains a curious mixture of flippant and irreverent buffoonery, lofty sentiment, and religious fervour. Politian, who was a brilliant classical scholar and philologist as well as a poet, wrote the lyric tragedy *Orfeo*; *Giostra*, a poem on the tournament; and some exquisite *Stanze per la giostra*. Other protégés of Lorenzo were Antonio Manetti (1423-97) and the famous Girolamo Savonarola (1452-98). The Renaissance of ancient culture was similarly fostered by Ferdinand I. at Naples. Jacopo Sannazaro (1458-1530) was the first to show that excellent Italian prose could be written outside of Tuscany. His *Arcadia*, a pastoral romance, foreshadowed by Boccaccio's *Ameto*, is classical in its construction of sentences as well as in its setting. It set the fashion for writing in studied poetical prose, and prescribed the rule for all future pastoral romances. A fellow townsman of his was Giovanni Pontano (1426-1503), the founder and head of the Neapolitan Academy and the author of many graceful lyrics and lively satires, which are unfortunately written in Latin. In Ferrara, the literary centre of the N., Matteo Maria Boiardo, Count of Scandiano (*d.* 1494), enjoyed great popularity as the author of an unfinished poem, *Orlando Innamorato*, which celebrates deeds famous in old French cycles. The story is original, and though the incidents are ingenious the characters are real people, but the style and diction are lacking in refinement.

The romantic epic, thus for the first time handled with any success by Boiardo, was perfected by Lodovico Ariosto (1474-1533). His *Orlando Furioso* is a sequel to the *Orlando Innamorato*. The works of Ariosto open a new period in the history of Italian literature, a glorious period called by Italians the *Cin-*

Latin verse. Another epic writer of the second period of the Renaissance was Giovanni Giorgio Trissino (1478-1550), a native of Vicenza. His *Italia liberata da' Goti* (published 1547-48) is also of interest as the first attempt to write Italian epic poetry in blank verse, but it lacks inspiration and falls far behind his tragedy *Sophonisba* (1515). Both Bernardo Tasso (1493-1569) in his *Amadigi* and Luigi Alamanni in *Girone il Cortese* owed much to *Orlando Furioso*. The high seriousness of these poets is even more prominent in the didactic work of Giovanni Rucellai (1475-1525) and Erasmo da Valvassone (1523-93). Side by side with these didactic poets there developed a school of burlesque writers, the chief of whom were Francesco Berni (1497-1535) and Antonio Francesco Grazzini, surnamed Il Lasca (1503-84). The cynicism and lack of morality that was characteristic of the time is prominent in the work of that crafty but far-sighted statesman, Niccolo Machiavelli (1469-1527). Second to him as a historian is Francesco Guicciardini (1483-1540), who, besides writing of the history and government of Florence, made a collection of aphorisms for statesmen called *Ricardi politici e civili*. The two chief novelists of the 16th century were Matteo Bandello and Anton Francesco Grazzini. Although the former was a Dominican friar, his works reflect the loose manners of the time as much as any of those of his contemporaries. The licentiousness of the Italian court w[illegible] in the in-

famous Pietro [illegible]

whose letters, [illegible]

6 vols. (1609), are an index to the life of the times. His comedies are lively and satiric sketches of contemporary manners. Other comedy writers of high merit are Giovan Maria Cecchi, Machiavelli, and Ariosto, but the greater number of Italian playwrights adopted the conventional methods employed by ancient writers of Latin comedy. During the latter part of the Renaissance a literary controversy took place with regard to the introduction of dialect forms in literature. In the end the 'purists,' who maintained the Tuscan of the 14th century to be the literary tongue, prevailed. Chief among them was the erudite Cardinal Bembo (1470-1547), who came to be regarded as the dictator in all matters of [illegible]. Other writers of pure prose were Mantuan 1478-1529) and Tuscan 503-56).

of Torquato Tasso (1544- his period to a close, and between it and the next. His early writings included *Rinaldo* and *Aminta*, a beautiful pastoral play, but his life work was the *Gerusalemme Liberata*, a poem on a heroic scale, in which is expressed the profundity of his feeling and the deep melancholy of his soul.

The period of decadence which followed the glorious era of the Renaissance may be traced back to the

middle of the 16th century. The writers of the *Seicentismo* were devoid of imagination, of passion, of sentiment. The inspiration of the Revival of Letters left them cold and barren, and their work is distinguished by its exaggeration, bombast, and artificiality. The fashion for this rapid manner of writing was set by Giovan Battista Marini (1569-1625), who, in spite of his far-fetched conceits and extravagant metaphors, showed a vigorous imagination in his poem, *L'Adone*. His manner was mimicked by lesser men, and the style which came in vogue was called after him, *Marinismo*. Another characteristic of the Seicentismo is seen in Gabriello Chiabrera of Savona (1552-1637) and his followers, Fulvio Testi of Ferrara (1598-1646), Francesco Redi of Arezzo (1626-98), and Alessando Guidi, who imitated Pindaric and other classical metres, and showed themselves possessed of a real lyric gift. The pastoral drama, essentially an artificial production, became extremely popular, the chief examples of the kind being the *Pastor Fido* of Guarini (1537-1612), and the *Dafne* of Rinuccini, which was set to music by Peri and Caccini. Vincenzo Filicaja (1642-1707) is noteworthy as being one of the few writers of this age with real sentiment. His songs have a true patriotic ring, but even they are expressed in an exaggerated form. A reaction against the extravagance of metaphor and the affectation of an exuberant, passionate style became evident, and took definite form in the establishment by Giovan Maria Crescimbeni and Gian Vincenzo Gravina of the 'Academy of Arcadia' (1690), which advocated a return to pastoral simplicity. The most noted of the 'Arcadians' were Innocenzo Frugoni, Felice Zappi, and Paolo Rolli. But these would-be reformers only fell from one affectation into another; the effeminacy of their madrigals is no better than the hyperbole of Marini. A healthy sign of revolt against Marinismo and Arcadia is seen in the satires of Salvator Rosa (1615-73), a Neapolitan artist and musician and a forerunner of the 18th-century patriots, and in the mock-heroics of Alessandro Tassoni (1565-1638), the author of *La Secchia Rapita* and *Filippiche*. But the most durable work of the Seicentismo was done by scientists like Galileo Galilei and Fra Paolo Sarpi and thinkers like Giordano Bruno and Tommaso Campanella. The prose of Galileo is distinguished by its precision and virility.

The *Risorgimento*, or Age of Revival, was also prepared by Giambattista Vico, who, in his *Scienza nuova*, investigated the universal laws of history which had governed the progress of the human race. Lodovico Antonio Muratori, Scipione Maffei of Verona, and Apostolo Zeno applied themselves industriously to historical research, and Count Giovanni Maria Mazzuchelli of Brescia and Girolamo Tiraboschi showed an interest in the sources and development of literature. Independent criticism found a public platform in the reviews recently established on the model of the English *Spectator* and *Tatler*. Chief of these were the *Osservatore* and *Gazzetta veneta* of Gaspare Gozzi (1713-86) and the *Frusta letteraria*, in which Giuseppe Baretti of Turin (1719-89) gave vent to his satirical humour. Most con- [illegible] literary reformers was Giuseppe [illegible] Lombard poet, who ridiculed the frivolity and self-indulgence of the society of the time in *Del Giorno*. Carlo Goldoni (1707-93) may be regarded as the dramatic reformer of the 18th century. With Molière as his master, he studied the people living about him and supplanted the *commedia dell' arte* by comedies of character.

The educated classes in Italy were at this time filled with a hope of freedom from the foreign yoke. The idea of liberty they found best expressed in the writings of ancient Greek and Latin writers, on whose style they tried to model their own. Vittorio Alfieri (1749-1803) made a determined effort to establish a national drama. His tragedies, which are almost invariably based on incidents in Greek or Roman history, may lack artistic finish, but they are inspired by a noble patriotic spirit. The chief literary fighters for national liberty at this time followed Alfieri in a return to classic models. Ugo Foscolo (1778-1827) passionately advocated the political cause in *Lettere di Jacopo Ortis*, *Sepolcri*, and *Ortis*, which are somewhat marred by his Gargantuan rhetoric. Foscolo should also be noted as a literary critic of high merit. His most important work as such is *Dell' origine e dell' ufficio della letteratura*; he also wrote textual criticisms of Dante and Boccaccio. Other classicists of note are Vincenzo Monti (1754-1828), who attacked Papacy in *Superstizione* and *Fanatismo*, and expressed his fears for his country in *Bassvilliana* and *Feroniade*; Giambattista B. Niccolini (1782-1861), who wrote tragedies on political subjects, as e.g. *Antonio Foscarini* and *Lodovico il Moro*; Ippolito Pindemonte (1753-1828), a dramatic poet; and Leopardi (1798-1837), the

greatest lyrist since the Trecento. Indignation against Napoleon's aggressive policy roused Carlo Botta (1766-1837) to write a history of his country during the years 1789-1814. Just as the dramatic poets mentioned above had found their inspiration in classical literature, so Botta turned to the same source and modelled his style on that of Roman historians. Other historians like him, distinguished by their patriotism and by their classic methods, are Cesare Balbo (1789-1853), who wrote a *Sommario della storia d'Italia*; Gino Capponi (1792-1876), and Lazzaro Papi of Lucca, author of the *Commentari della rivoluzione francese dal 1789 al 1814*.

The modern literature of I. may be said to have arisen out of the romantic movement which started in Milan towards the end of the 18th century. The chief characteristics of the new movement were a renewed study in the *aurei trecentisti*, the classic writers of the 14th century, and in all mediæval things, and a keen interest in the works of such men are Goethe and Byron, who represented a similar movement in Germany and England. The organ of the nc
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great historical novel, *Promessi Sposi*, which owes much to Sir Walter Scott. Domenico Guerrazzi (1804-74) and Massimo d'Azeglio (1798-1865) were
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Other
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are Giuseppe Belli, who wrote in Roman, and Porta, who wrote in Milanese. Among the political revolutionists, who were at the same time powerful literary advocates of the cause of liberty, should be noted. Vincenzo Gioberti (1801-52), who is also known by his philosophical work, *Primato morale e civile degli Italiani*; Niccolò Tommaseo (1802-

Humbert is marked by the patriotic poems, *stornelli politici*, of Francesco dall' Ongaro (1808-73). The traditions of the romantic school were maintained in the poems of Giovanni Prati (1815-84), but the greatest Italian poet of modern times, Giosuè Carducci, set on one side the outworn methods of the romantics, and sought his inspiration in the national literature of an earlier time. The chief followers of his classical manner are
Guido Mazz
Other mod
Giovanni P
Guerrini, a
drama, on the whole, has become more realistic, the chief exponent of modern methods being Gerolamo Rovetta and Giuseppe Giacose. Antonio Fogazzaro (1842-1910) has won a great reputation as a writer of

novelists are Grazia Deledda and Matilde Serao, while Vittoria Aganoor, Annie Vivanti, and Ada Negri are women poets of repute. Gabriele d'Annunzio is a brilliant and versatile writer—a dramatist, poet, novelist, and critic. His genius is undeniable, but many critics complain of the licentiousness and pessimism of his thought. Of literary critics the best known is perhaps Pasquale Villari, who made a European reputation as the biographer of Machiavelli and Savonarola.

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See the literary history of Wise and Percopò in German (1899, Italian trans. *Storia sulla da una letteratura a Italia*, 1900; *società di professori* (9 vols), 1898; Guissani, *Letteratura Romana*, and *Lirici* Carducci, *Studii Letterarii*, and *Lirici del Secolo XVIII.*; Volpi, *Il Trecento*, 1900; Rossi, *Il Quatrocento*, 1900; Belloni, Flamini, *Il Cinquecento*, 1902; Belloni, *Il Seicento*, 1900; Concari, *Il Settecento*, 1900; Mazzoni, *L'Ottocento*, 1904; J. A. Symond, *Renaissance in Italy* (new ed.), 1902; and R. Garnett, *History of Italian Literature*, 1898.

Itch, any irritating skin disease The commonest form is scabies, disease caused by the animal parasite *sarcoptes scabei*, which burrows unde the skin and causes intense irritation leading to scratching on the part o the patient with resulting rawnes scabs, and eczematous conditions. may occur on any part of the body but rarely on the scalp and often be tween the fingers. The treatment application of sulphur ointmen

Barber's itch is caused by a fungus and affects the hair follicles, particularly those of the beard. The inflammation set up leads to the formation of pustules at the root of each hair affected. *Cuban itch*, an irritating skin disease introduced by soldiers from Cuba; it is supposed to be a mild variety of small-pox. *Coolie itch*, a skin-inflammation common amongst field-workers in Assam and other tropical countries. It is caused by the larvæ of *uncinaria duodenalis*, and the eruptions are confined to the surface of the lower extremities.

Itch-mite, the name given to the species of Sarcoptinæ, a sub-family of arachnids which are parasitic on the skin of mammals, birds, and insects. *Notoedres*, *Prosopodectes*, *Sarcoptes*, and *Chorioptes* are among the commonest genera. *S. scabiei* attacks the skin of man, and produces the disease known as scabies.

Ithaca: 1. Now called **Thiaki**, one of the Ionian Isles, and lies E. of Cephalonia. It has an area of about 37 sq. m., and is mountainous. Wine and olive oil are the chief productions. The chief town is Vathy (pop. about 5000). This island is noteworthy as having been the home of Ulysses. Pop. about 11,050. 2. A tn., the cap. of Tompkins co., New York, U.S.A. It stands on Cayuga Lake, and manufactures guns, salt, and machinery. Cornell University is situated here. Pop. (1910) 14,802.

Ithome, the name of a fortress and mountain in Messenia, ancient Greece. The fortress played an important part in the Messenian wars waged against Sparta during the 7th and 5th centuries B.C.

Itinerary (Lat. *itinerarium*, from O. Lat. *itiner*, a journey), the name applied by the Romans to a list of the stopping-places, or halts, with the distances from one to another, between two places of importance. The I. was generally divided into two classes, one having the character of a book, and the other being a kind of travelling map. Of the former, the most important are the *Itineraria Antonini*, and the *It. Hicrosolymitanum*. Of the latter only one great example remains, viz. the famous *Tabula Peutingeriana*.

Ito, Prince Hirobumi (1838-1909), a Japanese statesman. In 1863 he worked his way before the mast to London, and joined others of his nation who had come to Europe to study Western civilisation. He returned to Japan in 1865, and took an active part in the social and political reorganisation of the country. From being Minister of Public Works he rose to the rank of Prime Minister in 1880, which office he held four times. He was selected by the Mikado to study the various forms of constitutional government in Europe, and was the author of the Japanese constitution of 1889, which in many respects is more liberal than that of several European countries. He energetically laboured to promote the development of the country, both military and industrial, and made frequent visits to Europe and America. He was made prince in 1907, and appointed resident-general of Korea after the Russo-Japanese War, meeting his death at the hands of a Korean at Kharbin.

Itu, or Ittu, a tn. in Brazil, on the R. Tiete, 70 m. W.N.W. of São Paulo. It is the centre of a great cotton, sugar, and coffee producing district, and has cotton factories, and iron and bronze foundries. Pop. 11,000.

Iturbide, Augustin de (1783-1824), for ten months emperor of Mexico, was a creole by birth. In early life he much distinguished himself as a soldier in the royalist cause, which was then endangered by Hidalgo's and Morelo's rebellions. He rose to general, but in 1816 retired from active service after acquittal from serious charges of violence and extortion. In 1822 he accepted from his devoted soldiers the title of Emperor Augustin I., for the Spanish Cortes refused to recognise the virtual independence of Mexico as set forth in the treaty of Cordova. After a compulsory abdication (1823), the result of his arrogance and despotism, he went into exile, and was murdered whilst attempting to return.

Iturea, a dist. in ancient Syria, lies between Damascus and the Lake of Tiberias in N.E. of Palestine.

Itzehoe, a tn. in Prussia, on the Stör, 44 m. N.W. of Hamburg, is the oldest town in Schleswig-Holstein. The castle of Enselsfleth, round which it was built, was erected by Charlemagne, 809. It carries on manufactures of tobacco, sugar, beer, and soap, and is a busy river port. Pop. 16,548.

Iuka, a tn. in Mississippi, U.S.A., cap. of Tishomingo co., is 22 m. S.E. of Corinth. Here the Federals under General Rosencrans defeated the Confederates under General Price in 1862. There are valuable mineral springs near. Pop. 882.

Iulus, *see* ASCANIUS.

Ivan, or John, the name of six grand dukes of Moscow and tsars of Russia:

Ivan I. (*d.* 1341), surnamed 'Kalita,' or 'Money-Bag,' because of his strict economics, consolidated scattered Russian territories, conquered Moscow and Tver, and made the former city the metropolitan see in place of Vladimir.

Ivan II. (1326-59), son of the above, was a 'gentle and merciful prince,' but a weak ruler, who much diminished the grand duke's prestige. He began to reign in 1353.

Ivan III. (1440-1505), called 'the Great,' ascended the throne in 1462. His commander Svenigorod crushed the power of the invading hordes of Tartars (1481). I. introduced fire-arms and cannon into Russia (1475), and also forced the heretofore independent kingdom of Novgorod to acknowledge his suzerainty (1478). He disregarded his boyars, and ruled as an autocrat.

Ivan IV. (1530-84), called the 'Terrible,' grandson of the above, came to the throne in 1533. He was a great conqueror, subduing Kazan and Astrakhan and annexing Siberia to the Russian kingdom. Further he was a good legislator, and in 1550 made a code known as Soudebnik. But he was cruel and tyrannical by nature, and was responsible for a number of ruthless massacres.

Ivan V. (1666-1696), became tsar in 1682, and was associated in power with his half-brother, Peter. He was quite deficient in personality, and became the tool of stronger men.

Ivan VI. (1740-64) never reigned, but passed practically the whole of his life in solitary confinement till his murder in 1764.

Ivanovo-Voznesensk, a tn. in the government of Vladimir, Russia, and is situated 60 m. N.N.E. of Vladimir. It has large manufactures, particularly of cotton, and also chemical works. Pop. 65,000.

Iveagh, Edward Cecil Guinness, Viscount (*b.* 1847), a philanthropist, was until 1889, the year of his retirement, head of the Guinness firm of Dublin brewers. Three years before he severed his connection the business was sold to a company for over five millions sterling. His first munificent charitable donation was a quarter of a million to be spent in building homes for the poorest workmen of London and Dublin. This fund is now controlled by the London and Dublin Guinness Trusts for Housing the Poor. Guinness became a peer in 1891, and soon afterwards embarked on a scheme for clearing and replanning seven acres of slum in Dublin city. Here he has arranged for labourers' dwellings, a public pleasuregarden, swimming baths, and a concert hall, and it is certain that the sum expended will considerably exceed the estimated £250,000. During the S. African War he despatched and financed an Irish field hospital to look after the sick and wounded, whilst with yet another £250,000 he increased the endowment of the Jenner Institute of Preventive Medicine in London.

[illegible] the Great Ouse, through Bedford-confluence is at Tempsford. Length 30 m.

Ives, Frederic Eugene (*b.* 1856), an American photographic inventor, a native of Litchfield, Connecticut. The reader is referred to I.'s own publications for the best account of his work. These include *Isochromatic* [illegible] 1886 and *A New Prin-* [illegible] 1889, in which [illegible]ess of half-tone [illegible]d 'the *photo-*chromoscope,' 1894—a device by which a single positive image in natural colours is produced by a combination of three negative ones.

Iveston, a vil. in the co. of Durham, England, situated about 9¼ m. N.W. of Durham. Pop. (1911) 4500.

Iviza 1. An island belonging to the Balearic Isles, situated in the Mediterranean Sea, between 50 and 60 m. from the coast of Spain, to which country it belongs. This island has a much indented coast and a mountainous and well-wooded interior. The chief productions are fruit of various kinds, and salt. Pop. about 23,500. 2. The cap. of the above is. It is a fortified tn., and was the see of a bishop. Pop. about 6500.

Ivory, the term properly given only to the material which forms the tusks of elephants, and is 'that modification of dentine, or tooth-substance, which in transverse sections or fractures shows lines of different colours, or striæ, proceeding in the arc of a circle, and forming by their decussations minute curvilinear lozenge-shaped spaces' (Sir Richard Owen, *Lectures*, 1856). These are sometimes [illegible] size, a single specimen [illegible] 200 lbs., and [illegible] n the *teeth* of most animals in that they are imbedded in semi-solid vascular pulp, and continue to grow in size during the whole life of the elephant. The term ivory is often extended to a similar substance obtained from the walrus, narwhal, hippopotamus, etc. The I. from the African elephants is the most esteemed on account of its superior density and whiteness, but a certain amount is also obtained from India, Ceylon, Burma, and the islands of the Eastern Archipelago. In African elephants both the males and females have tusks, although those of the males are larger, but in the Indian species the females are practically tuskless. The 'fossil' I. obtained from the extinct mammoth in Siberia is too brittle to be of much value. Antwerp is the chief market for I. I. is valued according to the size

and soundness of the tusks, and the price ranges from £10 to £90 per cwt. according to that. When there seemed a probability of the supply of I. running out, the price rose tremendously, but since it has been discovered that the natives store their I., which they will barter, the price has remained fairly uniform. Unfortunately the natives have discovered the superior value of newly obtained tusks, and palm off a large quantity of 'dead' I., which has been buried for centuries, upon unwary traders. The special qualities of I., its beautiful texture and tints, its perfect elasticity and adaptability to the carver's tools, have been recognised from the earliest times, and examples of carved I. dating from the time of Moses are still in existence. Vegetable I. is the name given to 'Corozo Nuts,' the hard, white, potato-like seeds of the palm-like tree (*Phytelephus macrocarpa*) which grows in the low, hot valleys of the Andes. It is valued at about £10 a ton, and is used for buttons, etc. For another substitute for I. *see* CELLULOID. *See also* A. Maskell's *Ivories*, 1906.

Ivory, James, F.R.S. (1765-1842), a mathematician, born in Dundee. He was educated at St. Andrews and Edinburgh universities, but gave up his original intention of entering the ministry and taught in a seminary at Dundee, afterwards becoming managing partner in a flax-spinning mill near Forfar. He was appointed professor of mathematics in the Royal Military College, Marlowe, Bucks, afterwards transferred to Sandhurst. He was a fellow of the Royal Society, from which he received three gold medals, and was elected member to corresponding scientific societies in France, Berlin, and Göttingen. In 1831 he was knighted and received a pension of £300 a year. He died at Hampstead.

Ivory, Vegetable, the name given to the hard white endosperm contained in the seeds of various plants, *e.g. Phytelephas macrocarpa*, a S. American palm. In appearance it resembles ivory, and is used in carving.

Ivory-black, a soft pigment prepared from calcined ivory-scraps, turnings, and sawdust; it is used in the manuf. of paints and printers' ink.

Ivory Coast, a French colony on the W. coast of Africa, bounded on the S. by the Gulf of Guinea, W. by Liberia and French Guinea, N. by Upper Senegal on Niger, and E. by the British colony of the Gold Coast. The low coastal plains extend inland about 40 m., beyond which the ground rises from a general height of about 1000 ft. to the plateau of the Kong territory (4757 ft.), which is largely covered with almost impenetrable, primæval forest, interspersed with patches of savannah. The rivers are of little importance, and all drain into the Gulf of Guinea. The chief products are maize, plantains, bananas, pine apples, limes, coffee, pepper, cotton; rubber and mahogany are exported in large quantities, and so are palm oil and kernels as well as a little ivory and gold dust. The imports (£447,690 in 1909) consisted mainly of cotton goods from Great Britain. The present capital is Bingerville (native *Adjame*); other towns are Great Bassam and Little Bassam (the chief port), Jackville, and Assini. From Abijean a railway runs N. to the oil and rubber districts. The colony was established in 1899, the coast having been settled in 1843, and the 'hinterland' in 1883. Area approximately 120,000 sq. m. Pop. about 1,000,000. *See* T. J. Clozel, *Dix ans à la Côte d'Ivoire*, 1906; R. Villanour and Richmond, *Notre Colonie de la Côte d'Ivoire*, 1903; and *La Côte d'Ivoire*, 1908.

Ivrea, a tn. in the prov. of Turin, Italy. It is situated about 38 m. by rail N.E. of Turin, on the Dora Baltea. This town possesses many interesting buildings, among which may be mentioned the cathedral and the old castle. The ancient town was in Roman times a place of importance. The modern town has manufs. of silk goods. Pop. (commune) about 11,696.

Ivry-la-Bataille, a tn. in the dept. of Eure, France. It is noted as the scene of the victory of Henry IV. of Navarre over Mayenne in 1590. Pop. about 1100.

Ivry-sur-Seine, a tn. in the dept. of Seine, France. It is situated on the l. b. of the Seine, S.E. of the fortifications of Paris. It has breweries, earthenware and engineering works. Pop. 33,000.

Ivy, or *Hedera Helix*, one of three species in its genus, which belongs to the Araliaceæ. It is an Old-World plant, which climbs by means of its roots, bears two forms of leaves, and has small flowers which secrete a great deal of honey and are therefore pollinated by insects. The ground-ivy, or *Nepeta Glechoma*, is a species of Labiatæ unallied to the common I.

Ivybridge, a small tn. of Devonshire, England. It is situated in the valley of the Erme, about 10 m. N.E. of Plymouth, and has paper mills. Pop. (1911) 1730.

Ixelles, in the prov. of Brabant, Belgium, a manufacturing suburb of Brussels. Pop. 58,615.

Ixia, a genus of iridaceous plants, consists of two dozen species, all of which are natives of S. Africa.

Several are cultivated in Britain for the beauty of their flowers.

Ixiolirion, a genus of amaryllidaceous plants, is indigenous to W. Asia. There are only two species, and of these *I. kolpakowskianum* is cultivated in Britain.

Ixion was, according to Greek legend, King of Thessaly, son of Phlegyas, and husband of Dia. All men shunned him when he murdered his father-in-law, but Zeus in pity bore him to Olympus. I., however, abused the god's hospitality, and strove to seduce his wife. By embracing a cloud, which he believed to be Hera, he became father to the Centaurs. Zeus punished his treachery by binding him in hell to a fiery wheel of perpetual motion.

Ixmiquilpan, a tn. in Mexico, in the state of Hidalgo, is 80 m. N.W. of the city of Mexico. It has valuable silver mines. Pop. 13,000.

Ixora, a genus of rubiaceous plants found in tropical countries, and the species, which number about one hundred, are evergreen shrubs.

Izabal: 1. A dept. of Guatemala, Central America, on the Caribbean coast. It is low and unhealthy, with extensive forests. 2. A cap. of the above prov., situated on the S. shore of Lake Izabal. Pop. 5100.

Izamal, a tn. of Yucatan, Mexico, 50 m. E. of Merida. It has many ancient ruins, which are visited by Indian pilgrims. Pop. 6000.

Izard, the name of a chamois (*Rupicapra tragus*) indigenous only to the Pyrenees. It closely resembles the chamois of the Alps, but is both smaller and ruddier in hue.

Izdubar, or Gilgamesh, the name of a hero in a Babylonian epic. He is associated with Eabani, and many stories are told of both of them. I. was successful in slaying a tremendous bull sent against him by the goddess Ishtar, whose love he had refused. He was also afflicted by a terrible disease, and after spending years of wandering was eventually cured, while Eabani was punished by the goddess and died.

Izhevsk, or Izhevsky, a tn. in the gov. of Vyatka, Russia, 145 m. S.W. of Perm; has an imperial gun factory and iron works. Pop. 21,500.

Izoulet-Loubatière, Jean Bernard Joachim (*b.* 1855), a French sociologist, secretary to Bert in Gambetta's cabinet (1881-82), chevalier of the Légion d'Honneur, professor of social philosophy at the Collège de France since 1897. His works include: *L'Ame française et les Universités nouvelles . . .*, 1892; *La Cité moderne . . .*, 1895; *Les Quatre Problèmes Sociaux*, 1898; and translations of Carlyle (1885), Emerson (1895); Roosevelt's *La Vie Intense*, and Mahan's *Le Salut de la Race blanche de l'empire des mers* (both in collaboration).

Izu-no-schichi-to (the seven islands of Izu) lie S. of Tokyo Bay, Japan. They are volcanic islands, three of them are active, and Izu-no-Oshima has a well-known smoking volcano (Mihara, 2500 ft.). They were used by the Japanese as convict settlements.

Izyum, a tn. in Russia, on the r. b. of the Donets, in the gov. of Kharkov. Pop. 13,000.

J

J, a modified form of I, is the latest addition to the alphabet. The symbol, a lengthened form of *i* with a curve to the left, was first used in 14th century MSS. for distinctive purposes, particularly when *i* had to be written initially or in conjunction with another *i*. I in Latin, besides being a vowel, had the consonantal sound of *y*, in such words as *index* and *major*. This sound came into England as *d:h* through French, where it had changed in sound to *zh* (*cf.* English *judge*, French *juge*). In French the sound *zh* was also represented by *g*. Consequently, such French words, in passing into English, by analogy with words like *judge*, have an alternate spelling of *g* and *j*. For example M.E. *geste, Gives;* N.E. *jest, Jews*. This accounts for variations in the spelling of words like *gaol, jail, gibe, jibe, Geoffrey, Jeffrey, sergeant, serjeant*. The Latin value of *j=y* may still be found in words of foreign origin, as *hallelujah, junker*, etc.

Jabalpur, or Jubbulpore: 1. The most northerly div. of the Central Provinces, British India. Area 18,950 sq. m. Pop. 2,061,000. 2. The cap. of above div., 150 m. N.E. of Nagpur, near the Nerbudda R. It is at the junction of two great railway systems, and one of the most important railway centres in India. It is also a commercial city and manufs. cotton goods, tents, and carpets. Pop. 89,700.

Jabary, or Javary, a riv. in S. America, is a trib. of the Amazon, joining it near Tabatinga after a course of 450 m. It forms part of the boundary between Brazil and Peru, and is navigable for 300 m.

Jabbok, a mountain stream of Gilead, Eastern Palestine, is one of the principal tributaries of the Jordan. It rises in Jebel Hauran and enters the Jordan 30 m. above the Dead Sea. It has many scriptural associations, and is first mentioned in connection with the meeting of Jacob and Esau. It is now called Mahral-Zarka, from the fortress of Zarka which stands on its banks between Damascus and Mecca. Its length is 110 m.

Jabesh-Gilead, a city of Gilead in Palestine, E. of the Jordan, is important in religious history. According to Josephus it was the metropolis of the Gileadites. Here Saul and his three sons were buried. The site is now uncertain.

Jabiru, or *Mycteria*, a genus of birds belonging to the Stork family (Ciconiidæ). The American J., which is found from the Argentine northward to Mexico, stands sometimes as much as 5 ft. high, has pure white plumage except for a black neck and head, and massive, slightly-upturned bill. Other species occur in India, Australia, and Africa.

Jablonski, Paul Ernst (1693-1757), a Coptic scholar, studied Coptic and other Oriental languages under La Croze. In 1714 the Prussian government paid the expenses of a foreign tour that he might improve his knowledge, the result being a valuable collection of copies of Coptic MSS., etc. Among his learned works are *Pantheon Ægyptiorum* (3 vols.), 1750-52, and a number of biblical studies.

Jabneel, a tn. in Palestine, between Joppa and Ashdod, 3 m. from the Mediterranean, was an ancient Philistine stronghold. It was taken by the Israelites and played an important part in Jewish history. It was conquered by the Maccabeans and became the centre of Jewish scholarship. The sittings of the Sanhedrin were held here after the destruction of Jerusalem. Near the modern village, Yabna, built on the ancient site, are the remains of a fortress built by the Crusaders. The Jabneel mentioned in Joshua xix. 13 is situated S.W. of the Sea of Galilee.

Jaborandi, the native Brazilian name for a number of drugs prepared from several rutaceous plants, but particularly from the leaflets of *Pilocarpus pennatifolius*. This shrub is about 4 or 5 ft. high, with long-stalked, alternate leaves, from 1 to 1½ ft. long, leaflets about 4 in. long, and flowers in racemes. The leaflets, when dried, are valuable for their [illegible] actions, Europe 1874; pilocarpine and jaborine, a volatile oil and a bitter substance. The effect of J. is to produce muscular relaxation, salivation, and perspiration; if taken in large doses it causes nausea, to which atropine is an antidote, and when applied to the eye it causes contraction of the pupil and interferes with the vision. This drug is

used by the Indians in case of fevers, and by European medical men in Bright's disease, etc.

Jaca, a fort. tn. in Spain, in the prov. of Huesca, on the Arragon, 66 m. N.E. of Saragossa, has a famous old cathedral. Pop. 5000.

Jacamars, a little-known species, found in the dense tropical forests of S. America, E. of the Andes, and classed in the family of the Galbulidæ. The golden, bronze, and steely lustre of their brilliant plumage, and the length and sharpness of their straight bills, are their chief characteristics. They are usually seen sitting motionless on trees and are therefore counted dull and stupid. The largest species is the [illegible]

Jacana, or *J* [illegible] whose most length of their toes and claws, which enables them to travel on the flat leaves of water-lilies and other river plants. Their eggs are a rich olive-brown, usually streaked with dark lines. The common J. (*Parra jacana*) of Brazil is black with green plumage on the wings and a warm-blown neck. In habit it resembles a water hen. The *Hydrophasianus*, or pheasant-tailed J., frequents the marshes and lagoons of India and China and is the largest of all the genera.

Jacaranda, a genus of Bignoniaceæ, found in tropical America, consists of about thirty species which are noted for their heavy, fragrant wood; these are also frequently known by the name of rosewood. *J. ovalifolia*, the green ebony, and *J. mimosifolia*, a native of Brazil, are common species.

Jacare, an alternative generic name for the *Caiman*, S. American alligators belonging to the family Crocodilidæ.

Jacchus, or *Hapale jacchus*, the name of a species of Primates belonging to the family Hapalidæ or marmosets; they are small monkeys found in S. America; their fur is soft and their general appearance squirrel-like; the tail is ringed, longer than the rest of the body, and not prehensile. They are arboreal and feed on insects and fruits.

Jacinth, *see* HYACINTH.

Jack, a word with a variety of meanings, all of them traceable to 'Jack,' the byname of a man, which is used in England as a familiar equivalent for 'John,' although it is at least equally possible that it is the French 'Jacques' (James). In compound words Jack has a contemptuous significance which has clearly grown from its familiar use. In the same way the French 'Jean' implies in compound expressions 'fool,' and from the Italian 'Giovanni' comes 'zanni,' or in English 'zany.' This sense is seen in 'boot-jack' and 'meat-jack,' which were devices dispensing with the need of boys; in 'jack-of-all-trades,' 'every-man Jack,' 'jack' for the knave in cards, 'jack' for the small ball aimed at in bowls, 'jack' for a young pike, and 'jack' for a ship's flag, which is always smaller than the ensign.

Jackal (Turkish *chakâl*, Persian *shaghal*), a name applied to many species of the genus *Canis*, but is properly restricted to *Canis aureus*, which is a wolfish, wild, dog-like animal found throughout Southern Asia and Eastern Europe. In colour it is a grey-yellow, the back being darker than the belly. The tail is bushy; the teeth and round eye-pupils resemble the dog's, and its length is some 2 ft. or, with the tail, 3 ft. The shriek of a J. is even more dismal and hideous than a hyæna's, and the Arabic name *Deeb* (howler) is certainly appropriate. The common food of Js. is poultry and small mammals, but as they are fond of marauding by night in packs of 200 or so, they sometimes carry off sheep and antelopes. Other species besides the common J. are the Egyptian wolf (*C. lupaster*), the striped J. (*C. lateralis*), and the J. wolf (*C. anthus*).

Jack-a-lantern, the popular name of *Ignis fatuus* (*q.v.*).

Jackass, Laughing, the name given to the species of *Dacelo*, a genus of coraciiform birds. *See* LAUGHING JACKASS.

Jackdaw, Daw, or *Corvus monedula*, a species of crow. It is smaller than the rook and rarely exceeds 14 in. in length. The plumage is glossy black with purplish wings. Usually it lays five bluish-white eggs, mottled with tiny dark-brown spots, and it invariably chooses a hole in which to keep them, often the hollow of a tree, a rabbit burrow, a belfry-tower, or a castle turret. It is one of the best of the bird-architects, and has been known to pile a stack of loose sticks 12 ft. high. In disposition it is remarkable for its temerity, domesticity, and cunning. Snails, worms, and insects are its chief food, indeed farmers are indebted to Js. almost as much as to rooks for the destruction of insectivorous pests. Js. are common residents in most parts of the world, though they seem not to be known in America.

Jackson: 1. A city in U.S.A., cap. of Jackson co., Michigan, is on the Grand R., 68 m. W. of Detroit. It is a railway centre, and coal is obtained close by. There are flour and paper mills, foundries, and breweries; manufactures of soap, machinery, and chemicals are carried on. Pop. (1910) 31,433. 2. Cap. of Madison co.,

Tennessee, 75 m. E. of Memphis, is on the Forked Deer R. It is the seat of the S.W. Baptist University, founded in 1874. It carries on an important cotton trade. Pop. (1910) 15,779. 3. The cap. of Mississippi, is on the Pearl R., 45 m. E. of Vicksburg. It contains fine public buildings, including the state house with its valuable library, and several charitable and technical institutions. Manufactures of machinery, agricultural implements, and cotton are carried on. Pop. (1910) 21,262. 4. The cap. of Jackson co., Ohio, is 108 m. S.E. of Springfield. It is the centre of an iron and coal producing district. It has woollen, flour, and planing mills, and blast furnaces. Pop. (1910) 5468.

Jackson, Andrew (1767-1845), the seventh president of the U.S.A., was the posthumous child of an Irish emigrant, and was born in a S. Carolina log-hut. In spite of his poor schooling he managed to work up a good practice as a lawyer in Nashville, which in 1796 became the capital of Tennessee state. His shrewd, if rough-and-ready judgments, secured him a wide popularity, and when his mind veered round to a soldier's career he had small difficulty in becoming major-general in the native militia, whilst in 1814 he obtained a similar commission in the U.S.A. army. In the course of the war then in progress against Great Britain, J. won golden opinions among the rank and file by his capture of Pensacola, and his gallant defence of New Orleans. During the war against the Seminole Indians of Florida (1818) he was guilty of several barbarities; yet these were covered in the brilliance of his former victories. In 1828 he was elected president of the U.S.A., and in 1832 was granted a fresh lease of office. His ultra-democratic principles carried all before them, and it may well be said that as a representative for Tennessee in the senate (1797) and as a judge of the supreme court of his state (1798) he had served an excellent apprenticeship. His presidency was conspicuous firstly for the way in which he ousted out federal officials from their appointments so as to make room for his own partisans, secondly for his triumphant veto on the Bill to renew the charter of the United States Bank, and thirdly by his determined and effectual crusade against the 'nullifiers,' who may be regarded as forerunners of the secession movement.

Jackson, Frederick George (*b.* 1860), an Arctic explorer, attended Edinburgh University. For some months he travelled in Australian deserts, and in 1893 he journeyed on a sledge in mid-winter across the frozen 'tundra' of Siberia, which lies between the Ob and the Pechora. *The Great Frozen Land* (1895) is the narrative of his adventures on this occasion, and in the same way *A Thousand Days in the Arctic* (1899) gives the results of the Jackson-Harmsworth Polar Expedition to Franz Joseph Land, which he commanded.

Jackson, Helen Maria (1831-85), an American authoress, was the daughter of a professor at Amherst College, Massachusetts. Emerson expressed his admiration for her meditative *Verses*, which were published in 1870. Her best work of fiction is *Ramona* (1884), which contains an admirable appreciation of Indian character and life. In *A Century of Dishonor* (1881) Miss J. issued a spirited denunciation of the government's dealings with the natives. As a writer she was both prolific and versatile.

Jackson, Holbrook (*b.* 1874), an English author. He was joint-editor of the *New Age*, 1907; editor of *The Beau*, 1910; of *T. P.'s Weekly* since 1911. Among his works are *E. Fitzgerald and Omar Khayyam . . .*, 1899; *The Eternal Now* (verses, 1900); *Every Child* (children's anthology), 1906; *Bernard Shaw*, 1907; *William Morris*, 1908; *Great English Novelists*, 1906; *All Manner of Folk*, 1912; *The Eighteen-Nineties*, 1913.

Jackson, John (1778-1831), a portrait painter, was the son of a tailor, who apprenticed him to his own trade. Sir George Beaumont, however, saw that J. was a lad of artistic promise, and sent him to London to the Royal Academy schools. The youth amply repaid the patronage, and between 1804 and 1830 exhibited 145 pictures at the Academy. By far his finest portrait was that of Flaxman, but he also executed excellent likenesses of Lady Dover and of Canova (in Rome).

Jackson, John Brinckerhoff (*b.* 1862), an American diplomatist, served for two years in the American European naval squadron, resigning from the navy (1886). He was called to the bar in New York in 1889, and was minister to Greece, the various Balkan States, Persia, and Cuba (1902-11), then becoming Envoy Extraordinary and Minister Plenipotentiary of U.S.A. to Roumania, Servia, and Bulgaria. He was American representative at the Olympic games at Athens (1906).

Jackson, Peter (1861-1900), a W. Indian pugilist, came of a negro stock. He defeated Slavin and managed to draw with J. J. Corbett after sixty-one rounds, in spite of the disadvantage of a sprained ankle at the outset.

Jackson, Thomas Graham (*b.* 1835),

an architect, was scholar (1854) and fellow (1864) of Wadham College, Oxford. Much of his work has been restoration, and nearly all of it has been devoted to scholastic or ecclesiastic buildings. Thus in his own university town he designed the new Examination Schools, the new Radcliffe Library, and extensions to Brasenose, Corpus, Balliol, etc.; in Cambridge, the Sedgwick Memorial Museum, the Law Library, and the [illegible] and he has [illegible] lay by, restorative skill [illegible] eat Malvern Priory and Winchester Cathedral, and there is a new church of his at Aldershot. *Reason in Architecture* (1906) is one of his recent publications.

Jackson, Thomas Jonathan (1824-63), an American general, was a native of W. Virginia. After distinguishing himself in the war against the Mexicans, he taught for some time at the Virginia Military Institute, but it was the secession of his state and the outbreak of civil war which showed the splendid stuff he was made of. At the battle of Bull Run he commanded a brigade of the Confederate troops, and the sturdy stand made by him and his men earned him his proud title of 'Stonewall' (1861). In the course of the famous Shenandoah Valley campaign (1862) he succeeded in defeating the three Federal detachments under Banks, Frémont, and McDowell, and later in inflicting a second defeat on Banks at Cedar Run, near Culpeper, Virginia. During the Maryland campaign he obliged 11,000 Federals to surrender in Harper's Ferry, and his corps at the tough fight of Antietam rendered yeoman service to the embarrassed Lee. Fredericksburg and Chancellorsville (1863) were his two last battles. At the latter he was thrice wounded and shortly afterwards died. To his soldiers he was a very Napoleon, but with his rare gift for inspiring popularity was combined the intense religious fervour of Cromwell.

Jackson, William (1730-1803), a musical composer, studied music under the organist of Exeter Cathedral and later under Travers, then organist of the Chapel Royal, London. His *Elegies* and other part-songs, especially 'Time has not thinned my flowing hair,' and the tender melodies in his opera, *The Lord of the Manor* (performed at Drury Lane in 1781), still delight all music lovers.

Jacksonville: 1. The cap. of Duval co., Florida, U.S.A., and situated on the St. John's R. This city, which is a very important railway centre, is well built, possessing many large buildings, while its streets are wide and shaded with trees. It is also a resort for winter visitors, and an important trading place, exporting and importing very largely. Pop. (1910) 57,699. 2. The cap. of Morgan co., Illinois, U.S.A., situated about 33 m. W. of Springfield. In this town are situated several educational institutions, among them the Illinois College (Dissenting), the State Conservatory of Music, and Illinois College for Women (Methodist). There a[illegible] [illegible] and charitable institut[illegible]

Jack[illegible] : [illegible] *folia*, a [illegible] India. [illegible] fruit tree and, like it, [illegible] e fruit of bread-like texture.

Jacmel, a seaport of Haiti, situated on the S. coast, 30 m. S.W. of Port-au-Prince. The vessels here anchor about half a mile away from the shore. Exports coffee, cotton, and logwood. Pop. about 8000.

Jacob, also called **Israel**, the son of Isaac and Rebekah. He was one of the chief of the three great Hebrew patriarchs whose histories are recounted in the Book of Genesis. His twelve sons are spoken of as the ancestors of the twelve tribes. J.'s death took place in Egypt whence he was carried to Hebron for burial. The account given of J.'s life is of no higher historical importance than that of the rest of the Book of Genesis, and interpretation of the part will depend upon one's view of the whole. Cheyne considers his name to be that 'not of an individual, but of the imaginary ancestor of a tribe.'

Jacob, John (1812-58), a British officer, born at Woolavington, in Somerset. Having entered the army he served in the Cutchee expedition (1834-40), and in 1841 received a command in Sindh, and in 1847 was political superintendent of Upper Sindh, and in 1857 commanded a cavalry regiment in Persia. Jacobabad, where he died, was named after him.

Jacob, Sir Samuel Swinton (*b.* 1841), an English engineer, born in India. Among his various services to India may be mentioned his success in dealing with the famine in Rajputana (1868-69). He has been presented with several medals, and became C.I.E. in 1890. He has published *Portfolios of Architectural Details*, 1890; and *Jaipur Enamels*.

Jacobabad, a tn. of Upper Sindh, India. It is situated 45 m. N.W. of Shikarpur, and has cantonments. It obtains its name from General John Jacob, its founder. Pop. about 12,500.

Jacobi, Friedrich Heinrich (1743-1819), a German philosopher, born at Düsseldorf, studied at Frankfort and Geneva. In his youth he made the acquaintance of Lessing, Herder, Hamann, Wieland, and Goethe. In 1770 he became councillor of finance for the duchies of Julich and Berg, and in 1807 was made president of the Academy of Sciences at Munich, where he died. His philosophical work was not original in nature, but consisted in keen criticism of the systems promulgated by others. He realised that the understanding alone could never raise mankind above materialism, and agreed with Kant that faith alone could be the criterion of what lay outside the realm of the senses. He was largely responsible for drawing attention to the philosophy of Spinoza by his letters to Mendelssohn, *Ueber die Lehre des Spinoza*, 1785, and compared Hume with Kant in his work *David Hume über den Glauben, oder Idealismus und Realismus*, 1787. He also expounded Schelling's philosophy in *Von den göttlichen Dingen und ihrer Offenbarung*, 1811. Apart from these he wrote philosophical romances, *Woldemar*, 1779, and Allwill's *Briefsammlung*, 1799. His collected works were published at Leipzig in 1812-24 in six volumes. *See* Zöppritz, *Aus F. H. Jacobis Nachlass*, 1869.

Jacobi, Karl Gustav Jacob (1804-51), a German mathematician, born at Potsdam, and after completing his education was made professor of mathematics at Königsberg, from which he retired in 1842, owing to ill-health. He is remembered as the discoverer of elliptic functions, and he helped to formulate the theory of determinants. His most important work is *Fundamenta Nova Theoriæ Functionum Ellipticarum*, 1829. His *Gesammelte Werke* were published in 1881-91.

Jacobi, Moritz Hermann von (1801-74), a German physicist, born at Potsdam. He went afterwards to live in Russia, and about the year 1839, when a member of the Academy of Sciences at St. Petersburg, made his discovery of *galvanoplastik*.

Jacobina, a tn. in the state of Bahia, Brazil. It is situated in a fertile though mountainous region. Pop. about 10,000.

Jacobites, the name given to the followers of the Stuart house after the revolution of 1688. The name is derived from the Latin name 'Jacobus' (James). James II. had numerous followers in all the countries of the British Isles, but the later Stuarts, the Old and Young Pretenders, received their main support from the Scots. In 1689 Graham of Claverhouse roused the Highlands for James, fought the battle of Killiecrankie, but died in the moment of victory. The Highlands were peaceful with the peace of desolation, after the massacre of Glencoe. In Ireland the Boyne had been fought in 1690 and the Irish defeated (*see* JAMES II.), and Ireland also was pacified at the edge of the sword. Ireland, however, was so thoroughly subdued, that during the two subsequent rebellions she played no active part. The reign of Anne was one of constant intrigue

the plot only the queen. In 1715, the Hanoverians having just been established on the throne, a Jacobite rebellion took place both in Scotland and in the N. of England. The indecisive battle of Sheriffmuir, the surrender at Preston, and the some

the Old the over

'Bonnie Prince Charlie,' landed at Moidart with seven followers. He roused the Highlands at once, he swept away opposition at Prestonpans, and proclaimed his father James III. He invaded England and reached Derby, but there he commenced to fall back. A rebellion on the defensive is of a necessity a failure, and Charles was finally overwhelmed at Culloden. After numerous adventures he managed to escape, and died on the Continent, a weak, broken, dissolute drunkard. His younger brother became a cardinal of the Roman Church, and thus ended the Stuart line. Every great statesman of the time had intrigued with the Stuarts, from Sunderland and Marlborough down to Newcastle himself. In fact, when Charles reached Derby in 1746, Newcastle

Samuel Johnson.

Jacobs, Joseph (*b.* 1854), an author and journalist, born at Sydney, New South Wales. He went on a lecturing tour through the U.S.A. in 1896. He has edited *Folk Lore, The Literary Year Book*, and *The Jewish Year Book*, and is at present the literary editor of the *Jewish Encyclopædia*. Mr. Jacobs has written extensively on Jewish subjects, and has done a

Jagellons, or Jagellones, a royal dynasty of Poland, descended from Gedimin of Lithuania (*d.* 1342), founded by Jagello (*c.* 1354-1434), afterwards Ladislaus II. This illustrious line ruled in Poland from 1386-1572, when, with Sigismund Augustus, the male line became extinct. Through his sister's descendants the J. continued on the throne till 1668. Rulers over Lithuania, Hungary, and Bohemia were also chosen from the J.

..., a tn. of ...ie frontier, ... on the R. Oppa. It has a Minorite monastery, a church (Burgberg), and a castle of the Liechtenstein princes. It is noted for woollen industries, and also manufs. cloth, organs, and machinery. Pop. 16,681.

Jagersfontein, a vil. of Fauresmith div., Orange Free State, S. Africa, 67 m. W.S.W. of Bloemfontein. The celebrated Klipfontein diamond mines near rank next to those of Kimberley. J. is on the railway from Cape Town to Pretoria. Pop. about 7500.

Jaggery (Hindustani *shakkar*), a coarse brown sugar of the East Indies, chemically the same as canesugar. It is made by inspissation from the sap of various palms, such as the J., cocoanut, Palmyra, and datepalms (*Phœnix dactylifera*). The Indian *Phœnix sylvestris* and *Caryota urens* also yield J., as do also the *Nipa fruticans*, *Arenga saccharifera*, and others. The sap or juice by fermentation becomes palm-wine, from which arrack is distilled.

Jago, Richard (1715-81), an English clergyman and poet, studied at Oxford. He held various livings in Warwickshire from 1746, dying at Snitterfield. His *Poems, Moral and Descriptive* were published by Hylton in 1784. Among them are: 'The Blackbirds;' 'Edgehill . . .'; 'Labour and Genius, a Fable.' *See* ...*ets*, xvii., 1810; ... *Worthies*, 1870; ...ii., 1769.

Jagodina, a tn. of Servia, near the Morava, 17 m. from Kragujevac, with ruins of a large mosque. Pop. about 5000.

Jaguar (*Felis onca*), a large American spotted cat of the species *Felidæ*, ranging from Texas through Central and S. America to Patagonia. In form the J. somewhat resembles the leopard, but is more thick set. Its skull resembles that of a lion or tiger. Its movements are rapid and it is very agile. It has a tawny yellow hide, spotted with black, and varies in size from 4 ft. to 6 ft. 9 in. It is generally found singly, and preys upon quadrupeds, such as horses, dogs, and cattle. It emits terrific roars and cries, particularly during the mating season. From two to four cubs are produced at birth towards the close of the year. In disposition the J. is ferocious and bloodthirsty, and after having tasted human flesh, it occasionally becomes a confirmed 'maneater.' It submits somewhat grudgingly to captivity, but may become subdued and even docile. It is usually hunted with dogs and poisoned arrows, though sometimes with the lassoo, and the skins are imported into Europe in large numbers. The black-furred J. is sometimes regarded as a different species, but the characteristic markings can be detected in certain lights. American naturalists divide the species into a number of forms regarded as distinct, but preferably ranked as sub-species.

Jahde, *see* JADE.

Jahn, Friedrich Ludwig (1778-1852), father of gymnastics, or *Turnvater*, born at Lanz in Prussia. First served in the Prussian army, and in 1811 started the first gymnasium in Berlin. His system did much to revive patriotism and attracted the Prussian youth, but in 1818 his gymnasiums were closed on account of the political gatherings held there, which were of too liberal a nature to find favour in the eyes of the Prussian government. J. was arrested and imprisoned for six years (1819-25) as a demagogue. *See* Lives by Pr...

Jahn, Joh...
lic biblical ...
Moravia, and became professor of Oriental languages first at Olmütz and then at Vienna (1789). His views of Biblical literature were, however, far in advance of his time, and the boldness of his criticism led to his retirement to a canonry in Vienna in 1806. The more notable of his works include: *Archæologia Biblica; Enchiridion Hermeneuticæ; Einleitung in die göttliche Bibel des Alten Bundes;* and *Biblica Hebraica.*

Jahn, Otto (1813-69), a German archæologist and classical editor, born at Kiel. In 1839 he lectured at his native town, and ten years later was appointed to the chair of archæology at Leipzig, where he founded the Archæological Society. Owing to his political views he was, for a time, deprived of his professorship, but resumed his work in 1855, when he accepted the post of professor of archæology and director of the Academic Art Museum at Bonn. His publications include works on Greek art, representations of ancient life on vases, a masterly Life of Mozart, and essays on music. *See Gedächtnisrede auf Otto Jahn*, 1869.

Jahrum, a tn. and dist. of Fars prov., Persia, 90 m. from Shiraz. The district is famous for its shâhân dates, other fruits and tobacco being also exported. Pop. about 15,000.

Jahvist (J), or **Yahwist**, a worshipper of Jahveh or Yahweh. The term is now generally applied to the writer or writers of the non-Deuteronomic portions of the Hexateuch, marked by the use of Jahveh, or Jehovah (the 'sacred tetragrammaton' of JHVH or IHUH), not Elohim, as the name of God. A Jehovist (JE) is properly one who combined the work of Jahvists and Elohists (E).

Jail Fever is now recognised as a severe form of typhus fever (*q.v.*). The disease raged in English prisons in the middle ages, breaking out at the Black Assize of Oxford in 1577. It was caught by many attending the assizes at the Old Bailey as late as 1750, but owing to the improvements in sanitation is now of rare occurrence. *See* Howard, *Account of the State of Prisons*, 1777.

Jainism, the doctrine of the Jains, a wealthy and influential Hindu sect, mostly found in the western district of Upper India. It is allied in many respects to Buddhism, but appears to have developed from Brahmanism at an earlier date than Buddhism did. Its origin is attributed to Vardhamana Mahavira, who lived about the end of the 6th century B.C. The sect flourished greatly between the 3rd and 8th centuries, but subsequently dwindled owing to persecution by the Brahmins. In 1901 the number was given as 1,335,000. The Jains, like the Buddhists, deny the divine origin of the Veda. They believe in the separate existence of the soul after death, even of animals, and this belief leads them to take great care of animal life. They brush seats before sitting, and drink only water that has been strained, never leaving it uncovered for fear that some insect may be drowned in it. They have to practise liberality, piety, gentleness, and penance, and must make a daily visit to the Jain temple. Their principle is to suppress the body by abstinence, continence, and silence. During certain seasons they abstain from honey, grapes, fruits, salt, tobacco, and other articles. The members of the religious order of the Jains are called Yatis, those of the secular order Sravakas, the rules for the former being stricter than those for the latter. The J. are not divided into castes, except in the S. of India, but they have certain family groups between which marriage is not allowed. Formerly they advocated leaving the body naked, but this practice is now confined to meal-times. Their [illegible] many [illegible] ence [illegible] give the sect its name. These saints are seventy-two in number, twenty-four each of the past, present, and future ages respectively, the earlier of them being of gigantic proportions, who lived enormous lengths of time, while the most recent resemble ordinary humans in these respects. The J. are responsible for many beautiful temples, notably Mount Abu and Mount Parasnath. Their temples are usually constructed with pseudo-arch and dome, built in horizontal courses and with pointed section.

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Jaintia Hills, a mountainous district, forming with Khasi a dist. of Assam, India. It lies S. of Brahmaputra valley, E. of the Khasi Hills. Area about 2000 sq. m. The inhabitants call themselves Panars, but are known as Santengs (Syntengs) by the Khasis. Coal and limestone are found, and rice is grown.

Jaipur, or Jeypore: 1. A state of Rajputana, India, covering an area of 15,579 sq. m. The central portion is a sandy table-land about 1500 ft. above sea-level, but in the N.W. the surface is broken by a spur of the Aravalli Mts. Jeypore came under British protection in 1818, and is one of [illegible] of [illegible] ar [illegible] large quantities of salt abound. Pop. 2,636,647. 2. The cap. of above state, 850 m. N.W. of Calcutta, and 84 m. N.W. of Ajmere. It is a walled city, well built, with the maharajah's palace in the centre, and is the chief commercial centre of Rajputana. Buildings of note are a college school of art, industrial and economic museum, observatory, mint, hospital, and several mosques and temples. Fabrics, enamelled gold-wares, and marble sculptures are the principal manufs. Pop. 137,098.

Jaisalmir, Jaisalmer, or Jessulmir, one of the chief Rajput states of [illegible] Situated [illegible] the W. [illegible] 0 sq. m. [illegible] the feudatory state, was founded in 1156 by Rawal Jaisal, and is 136 m. from Sukkur. There is a strong fort on the hill with many Jain temples. Trade in wool, camels, sheep, and cattle is

carried on. Pop. of state, 73,000; tn. about 7000.

Jajce (pronounced *Yaïtce*), an ancient tn. of Bosnia, on a hill near the junction of the Pliva and Vrbas rivers. The town possesses an interesting 14th century citadel and a ruined church (15th century), the legendary burial-place of St. Luke. Pop. about 4000.

Jajpur, or **Jajpore**, a tn. of Bengal Presidency, British India, 43 m. from Cuttack. It is a place of pilgrimage. Pop. about 12,000 (mostly Hindus).

Jalalabad, or **Jelalabad**, a tn. of Afghanistan, on the route between Kabul and Peshawar, in a fertile plain near Kabul R., close to Khaibar Pass. It is noted for the brave resistance made by the British under Sale (1841-42) to the Afghans. Its defences were destroyed on the British evacuation of Afghanistan, 1842. Pop. about 4000.

Jalalpur, or **Julalpur**: 1. A tn. of the Punjab, India, Gujarat dist., 78 m. N.W. of Lahore, noted for shawls. Pop. about 11,100. 2. A ruined tn. of Jehlam (Jhelum) dist., Punjab, India, 68 m. S.S.E. of Rawal Pindi. It is identified by Cunningham with Alexander's Bucephala, built in memory of his famous horse.

Jalandhar, **Jullunder**, or **Jullundur**, a tn. and cantonment of the Punjab, British India, cap. of Jalandhar dist., 47 m. E.S.E. of Amritsar. It is mentioned in the Mahabharata, and was once capital of the Rajput kingdom of Katoch (4th century B.C.). Pop. about 68,000 (Mohammedans and Hindus).

Jalap, a well-known purgative medicine, consisting of the dried root [illegible] plant belonging [illegible] mily. It is a [illegible] slopes of the Mexican sierras, growing at an altitude of about 6000 ft., and is named from the town of Jalapa. Jalap-root contains starch, sugar, lignin, etc., but the active principle is a resin present to the extent of 10 per cent., which may be extracted with alcohol. J., which is administered either as a powder or in alcoholic solution, acts as a hydragogue cathartic, and is used in constipation, renal disease, dropsy, and cerebral affections. The ordinary dose of the powder is from 10 to 30 grains.

Jalapa: 1. A tn. in Mexico in the state of Vera Cruz, 60 m. by rail N.W. of Vera Cruz city. Has an altitude of 4330 ft., and is situated in a picturesque and fertile district with a healthy and temperate climate. The medicinal plant 'jalap' here grows wild. The chief buildings are the old Franciscan monastery, government offices, church of St. Joseph, and hospital. Pop. about 20,000. 2. A dept. of Guatemala, Central America. Cap. Jalapa. Chief productions are coffee, the sugar-cane, rice, and maize. Pop. about 34,000.

Jalaun, a tn. of the United Provinces, India, 68 m. W.S.W. of Cawnpur. The surrounding swamps cause cholera and malarious fever. Grain, oil-seeds, and cotton are exported. Pop. about 10,000 (largely Hindus).

Jalisco, a state of Mexico, on the Pacific, with a coast-line 280 m. long, and covering an area of 31,846 sq. m. The state is traversed by the Sierra Madre with its volcanic cones, Colima (12,750 ft.), and Nevado (14,100 ft.), being the highest. The chief river is the Rio Grande de Santiago, flowing out of Lake Chapala, and draining the N. portion of the state. The chief industries are gold, silver, and copper mining, and agriculture. Cotton and woollen goods, paper and tobacco are manufactured. Guadalajara is the capital. Pop. 1,202,802.

Jalna, a tn. in the state of Hyderabad, India, about 215 m. from Bombay. J. has ceased to be a cantonment since 1903. It is famous for its gardens which grow large quantities of fruit. Pop. about 25,000.

Jalpaiguri, **Jalpigori**, or **Julpigoree**, a tn. and dist. of British India. The town is on the R. Tista, about 300 m. from Calcutta. Pop. about 10,000. The district includes the Western Dwars, and is situated S. of Darjeeling and Bhutan, and N. of Kuch Behar. Area 2960 sq. m. The district produces jute and tea, and lime is quarried in the lower Bhutan Hills. Pop. 788,000.

Jalpan, a tn. in Mexico, Queretaro state, situated about 85 m. from Guanajuato. Pop. about 6000.

Jaluit, or **Jalut**, one of the Marshall Islands in the Pacific. It is the headquarters of a German company trading with the Marshall Islands, and the neighbouring groups.

Jam, the name applied to the preserve formed from fruit boiled with an equal weight of sugar, which dissolves in the juice of the fruit as the latter is broken. The process of boiling sterilises the entire mixture, and causes the juice to develop the essential 'setting' properties due to the presence of 'pectin bodies' always present in ripe fruits. J., if carefully and well made, can be kept for several years, though the quality generally deteriorates after twelve or eighteen months, owing to the crystallisation of the sugar, etc. The time requisite for boiling J. varies according to the nature of the fruit used. It may be anything from ten minutes to one or two hours. The

heating process should be carried on over a slow fire, in order not to do away with the steam which generally contains the aromatic and flavouring principles of the fruit. If the boiling is hurried, these are carried away by the steam, and for this reason home-made J. is superior to commercial, the latter usually being boiled for a shorter period than the former. When J. is made from oranges or lemons and such-like fruits, it is termed 'marmalade.' The peel of these contains a large proportion of aromatic and flavouring matter, and towards the end of the boiling process is added to the preserve in the form of shreds. In fruit jellies, the juice of the fruit only is used, not the pulp as well, this being removed by straining. It is then boiled with sugar until ready to 'jelly.' Fruits are 'preserved' by covering with water in suitable utensils and heated to a high temperature, the vessel being closed while hot. In home-made preserves, the actual proportion of sugar averages about 20 per cent.; in commercial, from 10 to 50 per cent.

Jamaica, the largest island in the British W. Indies, forming part of the Greater Antilles. It is situated in the Caribbean Sea, 90 m. S. of eastern end of Cuba. It is 144 m. long, its greatest breadth being 49 m. Area 4207 sq. m. The island is divided into three counties: Cornw W.; Surrey in the E., and in the centre, each of which into five parishes. J. is by a mountain range, running E. and W., which culminates in the Blue Mountain Peak (7423 ft.) in the eastern region. From this ridge flow numerous rivers, which promote luxuriant vegetation, but, with the exception of the Black R., are useless for navigation. The Salt R., and the Cabaritta, are navigable for a few miles. Other notable rivers are the Rio Cobre and the Rio Minbo in the S., and the Rio Grande, Martha Brae, and Great Spanish R., in the N. There are many excellent harbours—P P K ri v grown are mahogany, balata, ebony, cocoanut, palm, and cacti. There is a flourishing trade in fruit, chiefly oranges, bananas, pineapples, mangoes, and grape-fruit. Very fine coffee is cultivated, especially in the district of the Blue Mts. Maize, Indian corn, Guinea grass, chinchona, tobacco, and ginger are among the products of the soil. Important industries are the breeding of horses and cattle, and bee-keeping. The cultivation of sugar is not carried on to such an extent as formerly. The principal manufs. are rum, oils, mineral waters, and matches; there are cigar factories, distilleries, breweries, etc. The climate of J. is, on the whole, very healthy. By the coast it is warm (mean temperature 80° all the year), but the heat is lessened by cool breezes. The atmosphere is very moist during the two rainy seasons in May and October. Inland and on the uplands the climate is delightfully mild. The island is frequently visited by thunderstorms. Heavy rains and floods caused much damage in 1909 and 1910. J. was discovered on May 3, 1494, by Columbus, who called it Sant Jago, but it has retained its Indian name *Xaymaca*, 'land of water.' In 1509 it was taken possession of by Spain, but was captured by the British under Penn and Venables in 1655, and was subsequently ceded to England by the treaty of Madrid (1670). The native Indians were by this time extinct, and were replaced by negroes. The slaves rebelled in 1831-32, and were formally freed on Aug. 1, 1834. Discontent, however, still smouldered among the negro population, and a second insurrection took place in 1865. In the following year, J. was declared a crown colony. It is administered by a governor, privy council of not t members. The legis- consists of fourteen of the people, ten members nominated by the king or governor, and six *ex officio* members. The population in 1911 was 831,383, including 630,131 blacks, 163,201 coloured, and 15,605 whites. The chief towns are Kingston, the seat of government (57,379); Spanish Town, the former capital (7119); and Port Antonio (7074).

Jamalpur: 1. A tn. and municipality of Bihar and Orissa, British India, 88 m. N.W. of Dacca. Pop. about 16,000, of which about two-thirds are Mohammedans. 2. A tn. and municipality of Bengal, British India, 32 m. W. of Bhagalpur. It contains the iron workshops belonging to the East India Railway Company. Pop. about 19,000, the greater part being Hindus.

Jambi, a tn. in Sumatra, on the r. b. of the Jambi R., about 125 m. N.N.W. of Palembang. Many Hindu sculptures have been discovered in its vicinity.

Jamblichus (Ἰάμβλιχος) Chalcidenus (c. 283-333 A.D.), a Neo-Platonic philosopher of Chalcis, Cœle-Syria, flourished under Constantine (306-37). He was a pupil of Anatolius

disciple of Porphyry, and a popular teacher at Alexandria. The prevalence of magic, divination, superstition, and sacrifices among the Neo-Platonists was said to be largely due to J. He wrote *Life of Pythagoras*, and a treatise on *Mysteries of the Egyptians*. *See* Hebenstreit, *Dissertatio de Jamblichi Doctrina*, 1764; Eunapius, *Vitæ Sophistarum*; Ritter, *Hist. of Philosophy*.

Jambu-dvipa, one of the seven continents of the world, in the Mahabharata, embracing the gods' dwelling-place and the mountain of Meru with its 'jambu' or 'rose-apple' tree. Mountains divide it into nine countries, Bharata (India) being the chief. Poetry and Buddhistic works give the name to all India. Others apply it to the mountain districts only (N.W.), and others to the whole of Asia.

Jambusar, a tn. and municipality of British India in the Broach dist., Bombay, situated about 28 m. N.W. of Broach. Pop. 12,500.

James, the name of three important figures in the Apostolic Church: 1. The son of Zebedee and brother of John, one of the most important of the apostles according to the Synoptic accounts. He and his brother received from Jesus the surname 'Boanerges' explained as meaning 'Sons of thunder.' In Acts i. 13 ff. he is mentioned among those who, after the Resurrection continued steadfast in prayer at Jerusalem. He was the first of the apostles to suffer martyrdom, being put to death in the year 44 A.D. by Herod Agrippa (Acts xii. 1 ff.). Legend speaks of his having made missionary journeys to Spain, of which country he is the patron saint. 2. The son of Alphæus, was also an apostle. There has been much discussion as to whether he is to be identified with (3), but this is generally felt to be impossible. Mark xv. 40 ff. speaks of his mother as a certain Mary, but little is known of him. 3. The 'brother' of Jesus, surnamed the Just, was probably the son of Joseph by a former marriage. Hegesippus (*see* Eusebius, *Historia Ecclesiastica*, ii., 23) gives a detailed description of his ascetic life. Of the kind that would appear ideal to an Ebionite, and Josephus (*Ant.* xx. 9) also tells us that he suffered death by stoning in 62 A.D. under the high-priest Ananus. He was the head of the Jewish Church at Jerusalem and seems to have been the leader of the Judaising party, eager for the observance of the law.

James, Saint, The Epistle of, is placed first among the catholic epistles. Its title is short, 'James, a servant of God and of the Lord Jesus Christ, to the twelve tribes which are scattered abroad.' The traditional view identifies this James with James the Just, Bishop of Jerusalem, and those who hold this view place the date of the epistle very early, before the epistle to the Hebrews and probably before St. Paul's first missionary journey. The epistle is therefore not to be regarded as a polemical treatise against the Pauline view of faith, but as an independent address to Jewish Christians from a different point of view. Though the apparent antithesis between the insistence of Paul on justification by faith and the emphasis which James lays upon works is great, so much so, indeed, that Luther characterised the epistle as 'an epistle of straw,' the two views are not contradictory. An almost entirely different opinion was held by the Tübingen school, now somewhat discredited. They placed the epistle very late. Schwegler and Hansrath ascribed it to the time of Trajan, Hilgenfeld to that of Domitian, being supported in thus dating it by Holtzmann and Von Soden. Most of these critics consider the epistle to be the work of a member of the Roman Church, writing in direct opposition to the Pauline propaganda, for the position of the Tübingen school depends largely on their assumption of an opposition throughout the N.T. between the Pauline theology and that of the older Jewish Christianity. The epistle deals, however, with life and not with doctrine. There was some difficulty as to its admission into the Canon. *See* Zahn's *Introduction to the New Testament*, i. (trans. 1909) and commentaries by Ewald, Mayor, and writers named in article.

James I. (1394-1437), King of Scotland, the son of Robert III., at an early age was sent to France by his father. He was, however, captured by English sailors on his way there, and was imprisoned in England by Henry IV. (1406). In the same year and probably a month later than his capture, his father died and he became nominally King of Scotland. The government of Scotland was conducted by the Duke of Albany, the king's uncle, who showed no desire to ransom his nephew. His education was by no means neglected, and he proved himself one of the best-educated princes of Europe. He was also very active and a good athlete. After accompanying Henry V. to France he was, in 1424, restored to Scotland, [illegible] promising a huge ransom.

year, Jar [illegible]
Duke of [illegible]
in 1424 and with his *real* accession

begins constitutional monarchy in Scotland. He caused the overthrow of Murdock, Duke of Albany, and his son, and proved so powerful a king that he made many enemies. He crushed the turbulent nobility and was finally murdered by Graham. He was the author of two poems, *The Kingis Quair*, and *Good Counsel*.

James II. (1430-1460), the only surviving son of James I. He was brought up during his minority under the care of his mother, the Earl Douglas acting as regent, and after the second marriage of the queen he passed into the custody of Sir Alexander Livingstone. Almost continual civil war waged during the period of his minority, the prize of the victors being the custody of the king. In 1449 J. married and assumed the royal power. He immediately proved himself a strong king. He caused Livingstone to be executed, and later stabbed Douglas with his own hands. He crushed the power of the great nobles, and was supported by the majority of them, and also by parliament. He sympathised with the Lancastrian cause in England during the Wars of the Roses, and after their defeat he attacked the English possessions in the S. of Scotland. At the siege of Roxburgh he was killed by the bursting of a cannon. On the whole the government and justice were improved and reformed during his reign.

James III. (1451-88), the eldest son of James II. He became king at the age of nine, and his minority was spent in the custody of Sir Alexander Boyd. In 1469 he married the daughter of the King of Denmark and assumed power himself. The nobles submitted to him, but his desire for peace and for a quiet life soon began to make him unpopular. His brothers plotted against him; both were arrested and whilst imprisoned one of them died. The other fled to England and was recognised by Edward IV. as King of Scotland. War broke out with England, but the Duke of Albany and Richard, Duke of Gloucester (Richard III.) were, owing to the actions of the barons, able to march upon Edinburgh. Peace was made, but again Albany rebelled and finally died in 1485. The barons, unable to appreciate the peaceful policy of James III. towards England, rebelled and defeated the king at Sauchieburn, where, according to tradition, after the battle he was slain by a soldier in the disguise of a priest who was called in to shrive him.

James IV. (1475-1513), was the eldestson of James III., against whom nominally he fought at the battle of Sauchieburn. He was crowned immediately after his father's death, and at once took over the management of the affairs of the realm. He had little or no trouble with his nobles after the frustration of a plot formed at the beginning of his reign to hand him over to the English king (Henry VII. Tudor), and he was intensely popular with the commons. He supported Perkin Warbeck against Henry VII., but the planned war with England came to nothing, and in 1503 the marriage between Margaret Tudor and James IV., which was to result in the union of the crowns, took place at Holyrood. He raised Scotland to the highest position she had yet attained in Europe, and during his reign the Scottish court was refined and enlightened. The accession of Henry VIII. led to continual bickerings between the two countries, and finally in 1513 James declared war. He gained some successes at first, but was finally overthrown at Flodden. He died fighting bravely, and with him perished the flower of Scottish nobility. He was a man of generous nature, and an energetic king.

James V. (1513-42), the son of James IV., he succeeded his father at the age of one year, and between the years 1513-28 the country was in a state of constant turmoil, owing to the head of the French party, occupied that position. The king fell into the hands of the Douglases, who kept him prisoner until the year 1528, when he escaped and began to rule himself. He put down disorder with a firm hand, and proved himself a very capable king, but he was unpopular with the nobles, since he restricted their power too much. He was intensely popular with the commons, however, whose rights he preserved, and for whom he built up sound commercial relations with the Continent. He married in 1538 Mary of Guise. He supported the old form of faith in Scotland, principally because he relied on the clergy for support against the nobles, and refused to follow the lead given by his uncle, Henry VIII. This refusal to listen to the advice of Henry VIII. led to bad feeling between the two countries, which terminated in 1542 in the outbreak of war. The nobles revenged themselves by deserting their king and leaving him to be overwhelmed at Solway Moss. Shortly afterwards he died, learning as he lay on his deathbed that a daughter had been born to him—the later Mary Queen of Scots.

James I. (1566-1625), King of Great Britain and Ireland (formerly James VI. of Scotland), the son and only child of Mary Queen of Scots and her second husband, Henry, Lord Darnley. He was born at Edinburgh Castle, and became king in 1567 when his mother was forced to abdicate. He was a boy of great weakness, and never became a strong man, although he lived for nearly sixty years. He was kept outside politics altogether up to the year 1578. He was brought up first of all under the care of the Earl of Mar and his countess, for both of whom he seems to have had much affection. Later, on the death of Mar, Sir Alexander Erskine took him into his charge. His education was by no means neglected, George Buchanan being his principal tutor. The times made it necessary that he should be trained as a Protestant, and therefore the theological side of his education was by no means neglected. It was not until 1583 that James began actually to rule. His rule as James VI. of Scotland was altogether for the good of that country. The long minority, preceded as it had been by religious quarrels, had given the nobility a power and privilege which were far too great for the safety of the kingdom. James broke the power of the baronage and restored the power of the monarchy. Scotland under his rule became quiet and obedient. He gained the favour of the people, and he was able even to curb the pretensions of the Presbyterian Church, and to introduce a form of episcopal government. He had been brought up as a Presbyterian, but he never had any very great love for Presbyterianism. He believed above all in the divine right of kings, and held that the chief supporters of this theory—the bishops—were alone to be supported. In England, however, his career was otherwise. He was accepted by his English subjects largely because the alternative to accepting him was civil war. But his pretensions, his intolerance, his personal appearance, and his manners did much to alienate his subjects. His claim of divine right, which he supported by pretence to powers of dispensation and suspension of the laws, quickly gained for him enemies in England. The failure of his foreign policy and his desire to pose as the arbiter of Europe were also points against his general popularity. He failed also altogether to see the weakness of Spain, and his desire for a marriage alliance with that country weakened support in England. His reign from 1603-25 may be regarded as one of the essential preliminary causes of the outbreak of civil war in 1642. Truly it has been said 'James sowed the wind, Charles reaped the whirlwind.' He has also been aptly described as the wisest fool in Christendom. He was certainly well educated and well read. His books, although they are only mediocre, still place him on a high level. His general reading and his intellectual interests show that he had great sympathy with the education of the time. Amongst writings of his may be mentioned, *Essays of a Prentise in the Divine Art of Poesie*, 1584; *Counterblast to Tobacco*, 1604; *Basilikon Doron*, 1899.

James II. (1633-1701), King of Great Britain and Ireland, was the second surviving son of Charles I., and was created Duke of York in 1643. During the Civil War he was captured by *Fairfax*, but escaped to Holland in 1648. During the twelve years which elapsed between this date and the Restoration, he proved himself an able soldier, and was commended both by Turenne and Condé. On the restoration he was appointed Lord High Admiral and Warden of the Cinque Ports. He proved himself an able officer and a wise administrator, and gained a great reputation both for ability and courage. His private life was, however, as immoral as that of his brother, the king. He married Anne Hyde in 1660, under exceedingly discreditable circumstances. He avowed himself a Roman Catholic in 1672, but after the passing of the Test Act, he was forced to give up his offices, and later the Popish Plot drove him to Holland. His exclusion from the throne was proposed by the Whigs, but after Charles' triumph he was able to return. He was first made High Commissioner for Scotland, where he instituted cruel persecutions of the Covenanters, and later he was again made Lord High Admiral. He succeeded in February 1685 to the throne. He promised to defend the Church and the laws, and was received as king with some popularity. He, however, failed to recognise the strength of the Established Church. He violated his promises, he introduced Catholics into the army, he put down the insurrections against him with bloody cruelties. He assumed the right of dispensing with and suspending the [illegible] and he broke every [illegible]tde. The [illegible] and the refusal of [illegible] d it in the churches led to their trial for seditious libel. They were acquitted amidst the applause of the nation and even of the army which James had gathered at Hounslow to overawe London. The birth of a son to

him destroyed English hopes of a Protestant succession, and induced the English nobles to send a unanimous invitation to William of Orange, without which he would not come. James was sublimely unconscious, in spite of repeated warnings, of what was happening, but awoke to the danger after the arrival of William of Orange in England. He attempted to retreat, and finally fled the country. His first attempt to escape failed, and he was brought back, but allowed [illegible] to France, nd, where he ie (1690). He courage, and ardice. Two other attempts to restore him (the battle of La Hogue, and the Assassination Plot) failed, and after refusing the crown of Poland, James died in the full odour of the sanctity of his Church. He was narrow-minded, and failed to grasp the greatness of the issues against him. To these two causes his failures may be chiefly put down.

James, David (1839-93), an actor, whose real name was Belacco, born in London. He made his first appearance at the Princess's Theatre under Charles Kean, but subsequently appeared at the Royalty in 1863, where he played in Mr. Burnand's burlesque of *Ixian*, and established his reputation in 1870 with his performance of Zekiel Homespun in the *Heir at Law*. He played at various theatres in many parts, but his most successful was Perkyn Middlewick in *Our Boys*. This piece was played over 1000 times, and was claimed as 'the largest run on record.'

James, Edmund Jones (*b.* 1855), an American educator and political economist. He was professor of public finance and political and social science at Pennsylvania University (1883-95), then moved to Chicago. After holding other high offices he became president of Illinois University (1905). His works include: *The Legal Tender Decisions*, 1887; *The Canal and the Railway; The* [illegible]

[illegible]

early, he attained some success as writer of miscellaneous articles, and in 1822 produced a *Life of the Black Prince*, followed within the next thirty years by over a hundred books, mostly novels, the remainder histories, plays, and verse. Many of his tales are historical, *Richelieu* (1829), being one of the best. They were very popular, having plenty of adventures told in good English, though the characters are mere lay-figures. His style is parodied by Thackeray in 'Barbazure' in *Novels by Eminent Hands*. Though J.'s histories are but compilations of no great value, he was for some time historiographer-royal to William IV. From 1850-60 he was British consul successively in Massachusetts, Virginia, and finally Venice, where he died.

James, George Wharton, an Ameri- [illegible]

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clude: *The Lick Observatory*, 1888; *Nature Sermons; Picturesque Southern California; Missions and Mission Indians of California; From Alpine Snow to Semi-Tropical Sea; In and Around the Grand Canyon*, 1900; *Indian Basketry; The Indians of the Painted Desert Region*, 1903.

James, Sir Henry (1803-77), a director-general of the Ordnance Survey of England and Wales, born in Cornwall. He was appointed in 1827, and was made director-general in 1854. He was also director of the topographical department of the War Office in 1857, and was knighted in 1860. He is famous for having applied photo-zincography to ordnance maps (1859), on which subject he published a book entitled *Photo-zincography and other Photographic Processes employed at the Ordnance Survey Office*.

James, Henry, Lord (of Hereford) (1828-1911), an English lawyer and statesman, born at Hereford, and educated at Cheltenham. Called to the bar in 1852 he became Q.C. in 1869, entering parliament the same year as Liberal member for Taunton, which seat he retained until 1885. In 1873 he was appointed first Solicitor-General, afterwards Attorney-General, and received a knighthood. Resuming office under Mr. Gladstone in 1880, he was offered the lord chancellorship in 1886, but declined to accept it, having broken away from his leader on the Home Rule question. Elected for Bury (Lancs.) in 1885, and re-elected in 1886 and 1892, he became a leading Unionist. At the holding of the Parnell Commission he appeared with Sir Richard Webster as counsel for *The Times*, and in 1895 took his seat in the Salisbury cabinet as Chancellor of the Duchy of Lancaster with a peerage. A convinced free trader, he strongly opposed the Tariff Reform movement in 1903. During the latter years of his life he took great interest in the Imperial Institute, and was fond of

literary and artistic society, though his intimate friends were mostly of his own profession. He was a good sportsman, and for some time president of the M.C.C.

James, Henry (*b.* 1843), an American author, son of an eminent theological writer and lecturer, born in New York. He and his brother William (*q.v.*) were in their boyhood educated in England, France, and Switzerland, and afterwards at Harvard. Henry was intended for the law, but took to literature instead, encouraged by Mr. Howells, then editor of the *Atlantic Monthly*, in which J.'s first story appeared in 1865. For four years he remained in America writing stories and sketches, then in 1869 removed to England, where he has since [illegible]. Beginning with *[illegible]* (1871), he has published a large number of volumes, including novels, collected stories, travel-sketches, criticism, and biography. In spite, or perhaps because, of the peculiar grace and distinction of his work he was rather long in 'arriving,' his first great success being *Daisy Miller* (1878). Since then he has won universal recognition as being first in his own particular school, a school so far removed from those of older masters of fiction that it has had to create its own circle of admirers. Intensely subtle and analytic in its portrayal of character, dealing little in incident, but proving the depths of individuality, of internal strife, of closely-woven intricacies of thought and feeling, it has nothing in common with romances like those of Scott and Dumas, or broad vigorous stories of everyday life as told by Dickens. Very characteristic and noteworthy specimens of J.'s work are *The Portrait of a Lady* and *The Golden Bowl*.

James, John Angell (1785-1859), an Independent minister, born at Blandford Forum, Dorset. He studied at the Gosport Academy, becoming a qualified preacher in 1803. In 1805 he accepted Carr's Lane Chapel, Birmingham, and while there took part also in municipal work. He was chairman of Spring Hill College, and one of the leading projectors of the Evangelical Alliance. He published several religious books, but his *Anxious Enquirer after Salvation* is his best known work.

James, William (*d.* 1827), a naval historian, practised in the Jamaica Supreme Court (1801-13). He was detained prisoner in the United States in 1812, but escaped to Nova Scotia in 1813. He published various pamphlets on the comparative merits of the English and American navies in 1816, but his great work is his *Naval History of Great Britain from the Declaration of War by France in 1793 to the Accession of George IV.* This appeared in 5 vols. in 1822-24, and was reprinted in 6 vols. in 1826.

James, William (1842-1910), an American philosopher, brother of Henry J., the novelist (*q.v.*), took his degree of M.D. at Harvard in 1870, and became lecturer there in anatomy and physiology in 1872. Inheriting from his father a love for subtle reasoning and mental research, together with great power and freshness in expressing his theories, he became assistant pro-

and was reprinted in a condensed form in 1892; he wrote also : *The Will to Believe*, 1897; *Human Immortality*, 1898; *Talks to Teachers on Psychology and to Students on Life's Ideals*, 1899 ; *The Varieties of Religious Experience*, 1902; *Pragmatism*, 1907; *A Pluralistic Universe*, 1908; and *The Meaning of Truth*, 1909. His home was at Cambridge, Massachusetts, but he visited Europe on se[illegible] invited to del[illegible] on natural [illegible] (1899-1901) and the Hibbert lectures at Manchester College, Oxford (1908). Honorary degrees were conferred on him by the universities of Padua, Edinburgh, Princeton, Oxford, Durham, and Geneva.

James Bay, an inlet in the southern part of Hudson Bay. It received its name from its explorer, Captain Thomas James. It is about 300 m. long and 150 m. wide, and contains a number of islands. Moose Factory, at the mouth of the Moose R., is an important trading station of the Hudson's Bay Company.

Jameson, Anna Brownell (1794-1860), an Irish authoress, born in Dublin. She was for some years governess in the family of Mr. Littleton, in which capacity she visited Italy, where she wrote her *Diary of an Ennuyée* (published 1826). In 1825 she married Robert J., but the marriage proved unhappy, and, with the exception of a short stay with him in Canada in 1836, she ceased to live with him after 1829. In 1831 she published her first important work, *Memoirs of Female Sovereigns*, followed by *Characteristics of Women*, 1832; [illegible] of *Charles* [illegible] and *Summer Rambles*, 1838, the result of her visit to Canada. It was, however, as an art critic that Mrs. Jameson excelled, and her writings on the subject of art include : *Companions*

to the public and private picture galleries in London, 1842; *The House of Titian*, 1846; *Lives of Early Italian Painters*, 1845; *Legends of the Monastic Orders*, 1850; *Legends of the Madonna*, 1852. The work upon which her reputation chiefly rests, *Sacred and Legendary Art* (first part published in 1848), was completed, after Mrs. Jameson's death, by Lady Eastlake under the title of *The History of Our Lord*, 1864. See *Memoir* by Mrs. Macpherson, 1878.

Jameson, Rt. Hon. Sir Leander Starr, Bart. (*b.* 1853), a British colonial statesman, born in Edinburgh, and studied medicine in London (M.D., 1877). Breaking down from overwork in 1878 he went out to S. Africa, settling at Kimberley, where he was very successful, among his patients being President Kruger and Lobengula. He was intimate with Cecil Rhodes, and when the latter assisted by J.'s influence with Lobengula, established the British S. African Company, the doctor accompanied the first emigrant column to Mashonaland in 1890. Next year, being appointed administrator, he succeeded in checking a Boer *trek* 4000 strong, organised to dispute the British possession of the country. In 1893 a Matabele invasion brought on a war in which J. took a leading part, and which ended in the conquest of Matabeleland. Returning home for a rest in 1894 he went out again in 1895, and on Dec. 31 led that disastrous raid into the Transvaal which heralded so many troubles. Captured by the Boers, he was sent home for trial and sentenced to fifteen months' imprisonment. Returning unofficially to Africa he became leader of the Progressive party after the war, and Premier on their success in 1904. His measures were liberal; the rebel prisoners were liberated and shortly afterwards restored to the franchise, while strenuous efforts were made to develop the resources of the country, railroads and education receiving special attention. In 1908 his party was defeated, and J. resigned office. He was made P.C. in 1907, and Bart. in 1911.

Jameson, Robert (1774-1854), a mineralogist, born at Leith. He was educated at Edinburgh University for a doctor, but gave up medicine for science. He founded the Wernerian Society in 1808, and was regius professor of the natural history and keeper of the museum at Edinburgh, 1804-54. He published *Mineralogy of the Scottish Isles*, 1800, as well as many other works, and was editor of Cuvier's *Theory of the Earth*, and Wilson and Bonaparte's *American Ornithology*.

Jamesone, George (*c.* 1588-1644), a Scottish portrait painter, born at Aberdeen. He practised in Scotland, but also may have studied under Rubens in Antwerp, probably painting his pictures of the 'Sibyls' and the 'Evangelists' at that time. He painted many of the most celebrated Scotsmen of the time, including: 'James VI.,' 'Charles I.,' 'The Great Marquis of Montrose,' etc. He visited Italy in 1634 with Sir Colin Campbell of Glenorchy, for whom he executed many portraits on his return to Scotland, which are in Taymouth Castle and Langton House, Duns, Berwickshire.

James River, the largest river in Virginia. It rises in the Alleghany Mts., and flows into Chesapeake Bay. It has a length of 450 m., and is navigable for steamboats of 130 tons as far as Richmond (*i.e.* 150 m. from its mouth). The chief tributaries are the Chickahominy and the Appomattox. Jamestown, the first permanent English settlement, was located on this river.

Jamestown: 1. The cap. of St. Helena, situated on the N.W. coast of the island. It is a coaling station, and contains the residence of the governor of the island. Pop. 1400. 2. A city in Chautauqua co., New York, U.S.A., about 60 m. S.W. of Buffalo, situated on Lake Chautauqua, and is much patronised as a summer resort. It is also a manufacturing city. Pop. (1910) 31,297. 3. A former settlement in James City co., Virginia, U.S.A., and was the first English settlement in the U.S. founded in 1607. Only remains, however, of this settlement exist at the present day, and the peninsula on which it stood has become an island. 4. A tn. in the Lydenburg div., Transvaal, S. Africa, situated N. of Barberton in the Kaap goldfields district.

Jami, Nureddin Abdurrahman (1414-92), the last great Persian poet, born at Jam in Khorassan. He wrote lyrical poems and odes, and his collection of romantic poems, *Haft Aurang*, contains two of his best known, 'Yusuf u Zuleikha' (trans. 1895 by Rogers) and 'Salaman u Absal' (trans. by FitzGerald, 1856). He also published a history of the Sufis and other prose works his chief being, *Baharistan*, which has also been translated.

Jamieson, John (1759-1838), a Scottish scholar and antiquary, born in Glasgow. After studying for the ministry he was ordained to the Anti-Burgher branch of the Secession Church at Forfar in 1781, and afterwards at Edinburgh in 1797. His chief work is *The Etymological Dictionary of the Scottish Language* (1808), supplement in 1825, and a new

edition in 1879-87. Among his publications are editions of Barbour's *Bruce*, and Blind Harry's *Sir William Wallace*.

Jamkhandi, the cap. of the native state of Jamkhandi, Bombay, India, situated about 37 m. S.W. of Bijapur. Pop. about 13,000.

Jammu, Jamu, or Jummoo, the cap. of the state of Jammu and Kashmir, India, and situated about 80 m. N. of Amritsar. It was once the seat of a Rajput dynasty, now the residence of the Maharajah of Kashmir. Pop. about 36,100.

Jamnotri, hot springs in Garhwal state, United Provinces, India, situated near the source of the R. Jumna. Alt. 10,849 ft.

Jamrud, a fort, Punjaub, India. It lies to the W. of Peshawar at the entrance of the Khyber Pass. It played an important part in 1878-79 in the war with Afghanistan. Pop. 1850.

Jamshid, the subject of many Persian poems and legends, is supposed to have belonged to the mythical 'Peeshdádian' Dynasty, and to have built and reigned in Persepolis about 1000-800 B.C., and to have been dethroned by Zohak, the Arabian.

Janeiro, Rio de, *see* RIO DE JANEIRO.

Janesville, the cap. of Rock co., Wisconsin, U.S.A., on the Rock R. about 70 m. S.W. of Milwaukee. It does a considerable trade in tobacco, and also manufs. cotton and woollen goods. Pop. (1910) 13,894.

Janet, Paul (1823-99), a French philosopher, born in Paris. He was professor of philosophy in Strassburg University in 1848, and in 1861 became professor at the Sorbonne, and a member of the Academy of Moral and Political Sciences, receiving prizes from this institution in 1855 and 1858 for *La Famille* and *Histoire de la Philosophie dans l'antiquité et dans les temps modernes*. He also wrote *Les Causes Finales*, which has been translated; *Histoire de la Philosophie*; *Philosophie de la Revolution Française*; and *Théorie de la morale*. He was a lucid if not original writer, and in philosophy was a follower of Cousin.

Jang, Bahadur (1816-77), Prime Minister of Nepal, was a nephew of Matabar Sing, who was a high functionary in Bengal. In 1834 he was made commander-in-chief of the Nipalese army, and in 1846 made himself prime minister when the former holder of the title was murdered. He kept on good terms with the English, visiting England in 1850, and rendered valuable assistance in Oudh in the mutiny of 1857.

Janiculum, The, a hill opposite to the city of Rome. It was one of the portions beyond the Tiber included in the fortifications of Aurelius (270-275 A.D.).

Janin, Jules Gabriel (1804-74), a critic and novelist, born at St. Etienne. He made his reputation by his dramatic criticisms in the *Journal des Débats*. He was a writer of books of travel, essays, historical treatises, and novels, and distinguished himself as a partisan of the classic school against the romanticists. His *L'Ane mort et la Femme guillotinée*, 1829, was a clever parody of Victor Hugo. This was followed in 1831 by *Barnave* (his best novel), which gives a striking picture of the first French Revolution. He was elected to the French Academy in 1870.

Janina, Yannina, or Yanina, the cap. of the vilayet of Janina, Albania, is situated in a picturesque position, about 50 m. from the shore opposite the island of Corfu. It is the seat of a Greek archbishop, and possesses many mosques and churches. Gold and silver embroidery are still produced in the city; exports are but few, imports being double their value. It was the stronghold of Ali Pasha, the tyrant of Epirus, from 1788-1818; was besieged and captured by the Greeks during the Balkan War, 1913. Pop. about 25,000.

Janizaries, a renowned force of Turkish soldiery established in the 14th century. Down to about 1600 they were composed of forced levies of Christian youths, to whom were added young captives taken in war. Trained both military were taught to their only home, and for centuries they were the flower of the Ottoman troops. Receiving no pay except during war, they were allowed to work at trades and to act as police. They frequently mutinied, and at length in 1826 a final revolt at Constantinople resulted in their annihilation.

Janjira, a native state, Konkan div., Bombay, India, having an area of 324 sq. m. The cap. is Murud, and the fort of Janjira lies on an island at the entrance of Rajpuri Creek. Pop. about 85,500.

Jan Mayen Land, an island in the Arctic Ocean, lying between Greenland and Norway. The island is of volcanic formation, the highest mountain being the Beerenberg in the N. (8350 ft.). It was probably first discovered by Henry Hudson in 1607, though others since his time have claimed to have discovered it—that of Jan Mayen in 1611 being quite improbable.

Jannes and Jambres, the legendary names of the two wizards who 'withstood Moses' (Ex. vii. 2; 2 Tim. iii. 8).

According to some traditions they were the 'two youths' (R.V. 'servants') who accompanied Balaam when he went up to curse Israel (Targum i.; Numb. xxii. 22). They were the subject of many legends, and a book *Pœnitentia Jannis et Mambre* is referred to among the apocryphal books by Origen. *See* Schürer, *Gesch.* iii. 292 *et seq* (1886-90).

Jansen, Cornelius (1585-1638), a Flemish divine, founder of the school of theology known as Jansenism. He studied at Louvain and Paris, returning to Louvain as a professor in 1616. During the preceding century that university had been one of the chief centres of the controversy between the Augustine and Jesuit parties, the former holding strict anti-Pelagian, the latter semi-Pelagian doctrines. The leading Augustinian champion was Baius, chancellor of Louvain, whose writings, through Jesuit influence, were condemned by a papal bull in 1567. Later on the Molinists, a Jesuit faction, carried their contentions to such excess that in 1611 further controversy was forbidden by the pope. A Jesuit theological school established at Louvain was bitterly opposed by the university authorities, headed by J., who, when on a mission to Madrid (1626), narrowly escaped being arrested by the Inquisition, but later, finding favour with the Spanish government for certain political writings, he was made Bishop of Ypres. He was strongly anti-Protestant, yet some of his tenets, nearly approaching Calvinism, were so fully expressed in his *Augustinus* (published posthumously) that in 1649 five propositions taken from it were condemned by the Vatican. Some of his friends, especially the fathers of Port Royal, headed by Arnauld, defended these same propositions, and though in 1653 they were declared heretical, Arnauld would not give way. In 1656 he was degraded and exiled, and in 1661 his adherents were ordered to sign a renunciation of his teaching on pain of imprisonment. A truce was established in 1669, and for thirty years the Jansenists, protected by some powerful friends, maintained a precarious footing in France. In 1703 Louis XIV., under Jesuit instigation, began a fierce attack on Jansenism, and in 1713 Clement XII. issued the bull *Unigenitus*, condemning [illegible] Quesnel, Arnauld's [illegible] decree had a very [illegible] in France, though [illegible] proved the stronger. The leading reformers withdrew to Holland, where they formed a church, of which some congregations still survive. The greatest contribution to Jansenist literature was the *Provincial Letters* of Pascal (1656-57), which contain a scathing analysis of Jesuit casuistry.

Jansen, Kristofer Nagel (*b.* 1841), a Norwegian author, born in Bergen. He was director of the high school at Gudbrandsdal for some years. His books give very fine sketches of peasant life; some of them are: *Han og ho*, 1868; *Marit Skjølte*, 1868, both of which are written in the peasant dialect; *Norske Dikt*, a volume of poems; *Jon Arason*, an historical tragedy; *The Spell-bound Fiddler*, 1880, a Norse romance; *De Fredløse*, 1894; *Lys og Frihed*, 1892; *Sara*, 1891; and *Torgrim*, 1872.

Jansenville, a municipality in the div. of Jansenville, Cape of Good Hope, situated on the Sunday R. Pop. 1300.

Janssen, Cornelius (*c.* 1590-1665), a Dutch painter, born probably at Amsterdam. He came to England in 1618, and was taken into the service of James I., whose portrait he painted several times. He remained in England till 1648, and then settled at the Hague. His chief pictures are a portrait of Sir George Villiers, father of the famous Duke of Buckingham; portrait of Charles I. (in Chatsworth House); and William Harvey (in the Royal College of Physicians); J. made a great reputation as a portrait painter, and worked both on panel and in miniature.

Janssen, Peter (*b.* 1844), a German historical and portrait painter, born at Düsseldorf. He studied both under Karl Sohn and Bendemann, and gained a great reputation by his historical pictures and portraits. He was awarded the gold medal in Berlin in 1893, and in 1895 became director of the academy at Düsseldorf. His chief work is *Walther Dodde and the Peasants of Berg before the Battle of Warringen*, 1288.

Janssen, Pierre Jules César (1824-1907), a French astronomer, born in Paris. He made a study of mathematics and physics, and in 1857 went to Peru in order to determine the magnetic equator. A greater part of the years 1861, 1862, and 1864 were spent in Switzerland, and in 1867 he went to the Azores, where he carried out magnetic experiments. He observed the solar eclipse at Guntur in 1868, at Algiers in 1870, in Siam in 1875, in the Caroline Islands in 1883, and at Alcosebre in Spain in 1905. He [illegible] noted the transits of Venus in [illegible] at Nagasaki in Japan and in [illegible] at Oran in Algeria. In 1875 he was appointed director of the new astrophysical observatory at Meudon.

He made an investigation of the solar spectrum, and endeavoured to discover whether the sun contains oxygen or not. With this end in view he erected an observatory on Mont Blanc, and made ascents in 1888, 1890, and 1893, but his results were practically nil.

Janssens, Victor Honorius (1664-1739), a Flemish painter, born in Brussels. He was appointed painter to the Duke of Holstein, and later, in 1718, became painter to the Emperor of Germany in Vienna. He studied for some years in Rome, where he became intimate with Tempesta, frequently painting figures for his landscapes. Some of his pictures are: 'St. Roch curing the Diseased'; 'The Sacrifice of Æneas'; 'Dido ordering the building of Carthage.'

Janssens van Nuyssen, Abraham (*c.* 1567-1632), a celebrated Flemish painter, pupil of Snellinck, and rival of Rubens. He was a good colourist and master of chiaroscuro, his torchlight scenes being especially fine. Among his best works are: 'Resurrection of Lazarus'; 'Descent from the Cross'; and 'Ecce Homo' (Ghent); 'Entombment' (Antwerp); 'Scaldis'; 'Day and Night.'

Janthina, *see* IANTHINA.

Januarius, St., or San Gennaro (*d.* 305 A.D.), a martyr, and the patron saint of Naples. Legend relates that he was bishop of Benevento under Diocletian, and that he suffered martyrdom, accompanied by most atrocious tortures, during that emperor's persecutions of the Christians. His body is preserved at Naples, and two phials which contain his blood are shown twice a year when the miracle of the 'liquefaction of the blood' is supposed to occur. See *Acta sanctorum* (September), vi. 761-891.

January, the first month of the modern year, containing thirty-one days. The name is derived from the Roman two-faced god 'Janus,' to whom it was dedicated. The Angles and Saxons called the month 'Wulfmonath,' because cold and hunger induced the wolves to enter the villages at that season. It was formally adopted by all European nations as the first month of the year in the 18th century.

Janus, one of the oldest of the Latin gods. His name is probably derived from the same root as *janua*, a gate, although some authorities regard it as the masculine form of Diana (Jana). He was considered 'the spirit of opening,' and is generally represented with two heads which look both ways. He was invoked at the beginning of any enterprise before any other of the gods, and he was invoked as the patron of all 'openings,' both concrete, as the gates of public or private buildings, and abstract, as the beginning of the day, of the month, of the year, in which capacity the fifth month of the year was dedicated to him. The only priest of his worship was the *Rex sacrorum*, the king in his capacity as religious head of the state, but every head of a household was in reality regarded as his 'flamen.' His worship was probably introduced by Romulus, and Numa built him an 'archway' (erroneously called a temple) which was always kept open in times of war and shut in times of peace. *See* J. S. Speyer, *Le Dieu romain Janus*, 1892; Warde Fowler's *Roman Festivals*, 1908, and *Gifford Lectures*, 1910.

Janvier, Louis Joseph (*b.* 1855), a diplomatist and author, born in Hayti, educated at Hayti and Paris. He passed examinations in the administrative, diplomatic, political economy, and finance sections (1883-87) in the Ecole des Sciences Politiques. J. was secretary of legation in London (1889-92), chargé d'affaires of Hayti in England (1892-1901), councillor of the Haytian legation in London (1909-10), and Berlin (1910). His works include: *La Phtisie pulmonaire . . .; Les Antinationaux; De l'Egalité des races; La République d'Haiti . . .; Humble Addresse aux Electeurs de la Commune de Port-au-Prince . . .*, 1908-9.

Jaora, a native state of Malwa, Central India, having an area of 581 sq. m. The town of the same name is situated about 20 m. N.E. of Ratlam. The state produces millet, cotton, maize, and poppies. Pop. 24,000.

Japan, or Nippon ('the origin of the sun'), the long chain of islands that constitute the empire of J. lies off the E. coast of Asia, divided from the continent by the Japanese Sea and washed by the Pacific Ocean on their eastern shores. The Kuriles, or the 'Myriad Isles,' form their northern limit, divided from Kamchatka by the Kurile Strait, while their most southerly point is Formosa, or Taiwan, which, with the Pescadores, was ceded to J. by China in 1895. The peninsula of Korea, or Chosen, is divided from the Japanese Islands of Kiushiu by the Straits of Korea. Chosen (84,102 sq. m.) was annexed by J. in 1910. Of the large islands which form J. proper, not counting nearly 4000 small ones, the most northerly is Sakhalin (or Saghalien), only the southern half of which belongs to J., ceded by Russia in 1905; it is called Karafuto by the Japanese (area 13,151 sq. m.); divided by the Gulf of Tartary from Asiatic Russia. S. of Karafuto lies Yezo, or

Hokkaido (36,299 sq. m.), and S. again is Honshiu, or Hondo, the largest isle of all (87,485 sq. m.), this is known as the mainland; below this follows the isle of Shikoku (7031 sq. m.), and S.W. lies Kiushiu (16,840 sq. m.), then comes the chain of little islands known as Luchu, which link up Formosa, or Taiwan (13,839 sq. m.), to the long straggling cluster of islands that form Nippon, or J. (the total area is about 175,540 sq. m., or including Korean territory, nearly 260,000 sq. m.). The coast-line is usually long in proportion to the area with the exception of Hondo. On the eastern shore the Pacific Ocean has indented the coast out-line considerably more than the Sea of J. upon the W. There are only two large bays on the E. coast, those of Sendai and Matsushima, but there are hundreds of smaller in-dentations. Further S. lies Tokyo Bay, the Gulf of Sagami, and the bays of Suruga and Ise. The famous inland sea that separates Shikoku from Kiushiu is one of the loveliest sheets of water in the world. It measures about 1325 sq. m., and is studded with beautiful little islands. Four narrow waterways connect it with the Pacific Ocean and the Sea of J. On the W. Shimonoseki Strait, on the S. Hayamoto Strait, and on the N. the Straits of Yura and Naruto. On the western shore of Kiushiu lie three promontories, Nomo, Shimabara, and Kizaki, en-closing a bay on whose shores stand Nagasaki and the naval port of Sasebo. On the S. of Kiushiu lies the bay of Kagoshima, further N. the inlet of
harbour c
of Maizur
from end to end by ranges of moun-tains, many being volcanic, some few of which are still active. The most famous mountain, both for its height (12,395 ft.) and for its sin-gular beauty of form and setting, is Fuji-yama, or Fuji-san; it lies a short distance from the great port of Yokohama in Hondo; the slopes are cultivated as far up as 1500 ft., then moorland and forest stretch up to the summit, which is crowned with ashes and scoriæ; the absence of flowers is due to the recent activity of the volcano. It possesses a wonderfully perfect shape, and the Japanese artist has made its picture familiar by constant reproductions; eight lakes lie at the foot of Fuji-san and add greatly to the beauty of the scenery. Among the highest moun-tains after the Fugi range are those in the provinces of Hida and Etchui, six of these rise to 9000 ft.; they are known as the Japanese Alps. The Nikko Mts. are another range famous for their beautiful vegetation and countless waterfalls. The highest peaks of all are Niitakayama (14,270 ft.) and Mt. Sylvia, both in Formosa. These are only a few of the multitude of ranges which exist through all the islands. The moun-tain scenery is not rugged, it is soft and beautiful, the vegetation of the hill-sides is exceedingly brilliant; the highest peaks do not carry snow all the year round. One famous moun-tain on the boundary of Hiuga, known as Kirishima-yama (5538 ft.), is especially sacred to the Japanese, because the god Ninigi descended on its eastern peak and introduced the first Japanese emperor, Jimmu. Among all these mountains are many volcanoes, which after long intervals of silence suddenly become active, such as Bandai-san (6037 ft.) that burst into terrible activity in 1888 and destroyed utterly seven prosper-ous villages and hundreds of people. Fuji-yama itself is a volcanic peak and appears to be extinct, but the history of other volcanoes forbids the people to wholly trust its present peaceful appearance. The volcanic character of the country has given J. one great gift in the shape of numberless hot springs, widely re-puted for their medicinal value.

has several extensive plains; that of Kwanto, which is very fertile, holds the capital, Tokyo, and the town of Yokohama. None of the rivers are of any considerable size, though pro-bably no country is so well watered by a network of streams and lakes. The longest river is the Tshikari-gawa (275 m.), and one of the most important is the Tone-gawa (177 m. long), its mouth being Shimosa. The Shinano (215 m.) waters the plain of Echigo, flows into the Sea of J., and is navigable for about 90 m. Most of the rivers are short, rapid, and shallow, gaining depth when the snows are melting; they are freely used for electric purposes and when-ever possible for transport. The lakes of Japan are numerous. They are very beautiful, the largest being Biwa in the centre of Honshiu, about 180 m. in circumference; it possesses eight views of wonderful beauty and is much loved by the Japanese. Lake Suwa in Shinano is also celebrated for its beauty. The eight lakes at the foot of the slopes of Fuji-yama are popular resorts for both foreigners and Japanese.

The geological basis of the islands consists of granite, syenite, and diorite, granite everywhere pre-

dominating; the granite is not always pure, thus, in the valleys of Nikko a granite-porphyry is found with crystals, felspar, and quartz, etc. The soil is usually workable and prolific, and along the banks of the rivers fertile and well adapted for the cultivation of rice. The climate necessarily varies in different parts of the empire owing to the long extension of the islands. Its general characteristics are heat and moisture through the short, bright summer, followed by long, cold, fine winters. There are three wet seasons, the first from the middle of April to the beginning of May, the second from the middle of June to the beginning of July, and the third from September to early in October. In the more mountainous districts of the islands the snowfall during the winter is very deep. J. is, in reality, rather a wet country, although the brilliant sunshine assists in making a healthy climate, yet bad fogs are prevalent even during the summer. The typhoon, or great wind, is a terrible visitor, especially during September, though few months escap[illegible] force. Nearly [illegible] been experien[illegible] damages caused by the typhoon, including the destruction of ships, villages, roads, embankments, and bridges, etc. The islands also suffer from frequent earthquakes, accompanied by tidal waves which claim thousands of human victims.

Flora.—J. has a great and beautiful variety of vegetation, the colours of the foliage in spring and autumn being unsurpassed in richness and range of shades. Many English gardens have gained in beauty by [illegible] nuts, birch, chestnut, camphor trees, and especially the weeping willow and maple grow freely, while everywhere the bamboo is seen growing in beautiful clumps. Among the queens of the flowering trees the plum must come first, so graceful in its growth and in its profusion of beautiful blossom and so wonderful in its richly coloured foliage. The cherry tree is even more beloved by the natives, who stand among the world's greatest and most artistic gardeners. The wealth of bloom on these exquisite fruit trees should be placed among the many delightful and attractive things to be seen and enjoyed in J. The peach tree also blooms with amazing profusion, but all these three, the plum, the cherry, and the peach, bear only blossoms and no fruit worth mentioning. The Japanese pyrus, or pear tree, and the malus, or apple tree, have become familiar to English gardeners, and should be much prized for their gay colouring and cloud of blossoms; among the apple varieties the *Floribunda* is especially hardy and beautiful, and every garden should possess at least one. The magnolia blooms in great perfection, also the azalea, chrysanthemum, peonies, iris, hydrangea, camellia, gum cistus, etc. We owe many of our most graceful and brightly coloured shrubs and flowers to Japanese gardeners. As a race they love the art of gardening, and at no time is the country devoid of blossoms of some kind. Their landscape and water-gardens are creations of beauty, and the miniature, or toy gardens, are an astonishing example of patient care and study. In fascinating little places a perfect tree such as a cedar may be a hundred years old, yet dwarfed to attain only a few inches in height, though perfectly complete in its proportions. Lilies grow wild in great variety, and the lotus lily during the summer months covers the lakes and rivers with its delicate blooms. Ferns are found everywhere in great quantities; there are over 150 different species. The chief fruits are the orange, grape, pear, apple, loquat, peaches, raspberries, and persimmons; they are, however, often rather tasteless and inclined to be tough. Vegetables are well cultivated, and many curious and palatable roots have been introduced from J. to Europe during recent years.

Fauna.—There are several kinds of wild animals, the black bear is found in Hondo and the brown bear in Yezo; the ice bear is an occasional visitor, carried down by the Arctic [illegible] Badgers and foxes are [illegible] us, and are credited with [illegible] tural powers; monkeys abound all over the islands; there are no rabbits, but hares are plentiful. Wild boars and stags, also antelopes, exist in the mountainous districts; otters and sea otters are numerous and much valued for their fur. The squirrel and the rat are very common, but there are no mice. The bird life carries a large variety, water fowl is very plentiful, wild geese, ducks, teal, and herons, especially the silver heron (beloved by Japanese artists), are seen in large numbers, also the kite, falcon, and sparrow-hawk. [illegible] there are two varieties of the latter, one known as the copper pheasant, being remarkable for its beautiful plumage. Eagles are found but recently in smaller quantities. The crane is a sacred bird, being honoured

as an emblem of longevity. Among the smaller birds the *Uguisu* comes first, a species of nightingale gifted with a very beautiful song. The cuckoo, lark, hoopoe, blue-bird, starling, wren, kingfisher, and various finches, etc., are all inhabitants of the islands. Among the thirty species of reptiles are a very few turtles (highly valued when caught), many tortoises, ten varieties of snakes, only one being venomous, lizards, frogs, toads, and newts are plentiful, and the giant salamander, which has been said to attain a length of 5 ft. Fish forms a very large part of the food of the Japanese, it is most wonderfully plentiful both in the sea and the rivers and lakes. Among the chief are the bream, perch, mullet, mackerel, haddock, and salmon, etc. The gold carp and the gold fish, so prized for their beauty, are very numerous. J. is rich in beautiful insect life, the golden and the jewel beetle, and the many kinds of brilliant butterflies of tropical beauty; there are seven kinds of silk moths and from the cocoon of the moth, *Caligula Japonica*, fishing lines are manufactured. The singing cricket and the cicada are common everywhere, also beautiful dragon flies. Spiders abound and atte[illegible] proportions. In the lake[illegible] live many kinds of fresh [illegible] and myriads of shrimps which are largely used for food.

[illegible] There ar[illegible] have ov[illegible] The capital, Tokyo, has a population of 2,186,079; Osaka, 1,226,590; Kyoto, 442,462; Yokohama, 394,303; Kobe, 378,917. The two latter are the chief ports and centres of foreign trade. The present population of J. consists of two distinct races, the Ainus, or Ainos, and the Japanese. The Ainus are probably the original race of the main island, Hondo. Evidence of another prim[illegible] has been found, so-called [illegible] who dug pits in the earth, [illegible] them over to live in. The Japanese of the present day do not differ physically very much from the Korean and Chinese. The main part of the race is short of stature and very muscular, but man[illegible] distinguishable, the mos[illegible] being an element of the [illegible] follow the Manchu-Kore[illegible] Mongol, and lastly the [illegible] although the whole race presents certain marked physical characteristics, the different types are still traceable. In [illegible] more refined: [illegible] women (accor[illegible] are frequently

tendency to prominent cheek-bones and flat noses becomes more obvious. They are straight-haired and usually very dark. As a race they are an exceedingly happy, light-hearted people. Children occupy an important place in every family; J. has been called rightly 'the paradise of children.' The present condition of women is based upon the principle of *equality of sexes*. *As a wife and* mother, the Japanese woman enjoys a position of freedom and respect. If single she may and often does adopt children and becomes 'house-head' of her legal family. The general character of the Japanese woman is especially worthy of mention, they are unselfish, modest, kind-hearted, and patient, obedient as daughters, faithful as wives, and devoted as mothers. Both men and women are by nature frugal and industrious and share in a passionate love of their country.

Religion.—The original religion of J. is Shinto (the divine way), a mixture of nature-worship and ancestor-worship. It regards human people as naturally virtuous, being descended from the gods, and assumes that an individual's conscience is his true guide. The dead are ghosts, in[illegible] a world of darkness with the [illegible] bringing sorrow or joy into [illegible] of the living. There are numerous gods and goddesses, with several beautiful and charming legends attached to them. The principal divinity is Amaterasu, the goddess of the sun. Her shrine at Ise is visited by crowds of pilgrims. There appears to be no definite idea of what kind of life continues after death, but the cult expects natural purity of life without promises of reward. Buddhism reached J. (552 A.D.) through Korea, and the two religions became so intermixed it was difficult to disentangle them. Buddhism, however, gradually absorbed the greater part [illegible] divided into various [illegible] are tolerated and [illegible] they choose; every kind of Christian denomination appears to have been represented at various times, but the amount of converts remains very small, about 130,000 out of 50,000,000. The [illegible] ually adapt whatever [illegible] llow to their own re-

and government.—
[illegible] cession of the Emperor Jimmu in 660 B.C. until 1889, the country was ruled by an absolute monarchy, but in 1889 the emperor, [illegible] of the government [illegible] gave J. its present [illegible] emperor, called by [illegible] ikado,' and by his

subjects 'Tenshi' (son of heaven), stands at the head of the state. The present emperor is the 122nd of his line, an unbroken dynasty since the beginning of the country's history. The parliament has no executive power, which is in the emperor himself, who exercises his rights of sovereignty according to the provisions of the present constitution. The ministers are appointed by him and they are solely responsible to his majesty. The privy council, which is an advisory body, sits when consulted by the emperor, who may or may not follow their advice. The Diet consists of the House of Peers and the House of Representatives. The House of Peers holds four classes of members: (1) Hereditary members, princes, and marquises, who may sit at twenty-five years of age. (2) Counts, viscounts, and barons, elected, having attained their twenty-fifth year; the proportion of these is one to five peers. (3) Men of distinction who are nominated by the emperor. (4) Representatives of the highest taxpayers nominated by their own class. The House of Representatives is composed of 379 members who are elected by qualified electors. Voting is by ballot, one man one vote, and a general election takes place once in four years for the Lower House, and once in seven for the Upper House. The members of the House of Representatives receive a salary of £200. For [illegible] J. is divided into [illegible] as follows: [illegible]s, forty-three rural prefectures, and three special dominions. Each division is named after its chief town and forms the seat of local self-government, dealing with finance and municipal improvements, etc. The present laws of J. are based upon the continental Roman law. The courts of justice are classed as: District courts, local courts, courts of appeal, and the court of cassation or supreme court. Juries are not employed and judgeships are obtained by examination.

Agriculture.—Over 60 per cent. of the population are engaged in agriculture; it is J.'s most important industry. Small holdings are the general rule, rarely exceeding eight acres. The soil is not particularly fertile, and hard work and hard living have made the rich rice fields what they are. Rice is, of course, the chief crop; it forms the principal food of the people, and is also the basis of the national drink, saki. It is a summer crop, harvested in September; the fields are flooded while the grain is young and the drained. Barley can be grown during the winter months in the same soil. The following are the chief products and the area under cultivation: Rice, 7,226,000 acres; barley, 1,520,000 acres; naked barley, 1,656,000 acres; wheat, 1,656,000 acres; soya bean, 1,137,000 acres. Other important crops are millet, small red beans, buckwheat, rape seed, potato, sweet potatoes, tea, tobacco, indigo, hemp, sugar-cane, and peppermint, etc. The paper mulberry is extensively grown, its fibrous tissue being the chief material used for Japanese paper. Barley is grown with particular care as it provides the material for straw-plaits which is an important manufacture. Stock-breeding is not very extensive at present, pasture land being scarce. The growing liking for beef among the people has diminished the indigenous cattle, but various foreign breeds are imported. Sheep and pigs are on the increase but the natives prefer beef. Goats are kept for their milk. The rearing of silk-worms is a very important asset to the small farmer. Japanese silk has long been famous. The chief silk-producing prefectures are Nagano, Gumma, Yamanashi, Fukushima, Aichi, and Saitama; thousands of families are engaged in its production and manufacture. The average amount of raw silk produced in a year is 22,644,604 lbs., and of waste silk 9,060,318, total value £13,431,997. Lacquer and vegetable wax are two important productions.

Industries.—The industrial progress of the country has made rapid strides. Labour is cheap and plentiful. Machinery has been largely introduced. The textile and allied industries rank first, employing about 486,508 persons, then follows machine and tool factories, chemical works, food and drink factories, paper ware, leather ware, matting, straw-plaits, feather ware, and bamboo factories, and several others. The manufacture of matches has increased enormously, and become an important industry, employing about 18,000 people. Sugar refining is also growing, but the more ancient industries such as matting, lacquer, and porcelain, remain unchanged. The country produces enough coal for its own use, reaching 12,000,000 tons a year. The production of iron is insufficient and is supplemented from China and Korea. Gold is found and worked, but not in great quantities; silver is [illegible] chiefly from the volcanic [illegible] uch larger [illegible] ually valu- [illegible] year being [illegible] v per cent. [illegible] is covered

with forest, from which a quantity of good timber is obtained; there are 700 private saw-mills besides those owned by the government. Large groves of bamboo furnish material for building, ornamental work, and tools, etc. Another smaller industry furnished by the forests is the cultivation of mushrooms; these are dried and exported to China and India. Camphor is another valuable gift from the forests, though the industry is now chiefly in Formosa, where large camphor forests are found. The fishing industry is of very great importance, employing 1,740,000 men, the value to the empire annually naturally varies, but roughly may be put at £9,000,000. The industry of salt-refining is of some importance, about 580,000 tons being produced in the year.

Railways and communications.—Railways have made rapid strides lately; there are now 6,279 miles of rail-road, chiefly owned by the state. The first line ran between Yokohama and Tokyo, opened in 1872. After the war with Russia in 1904 the state

is modelled on Western lines, and J. became a member of the international postal union in 1877. Telegraphic communication commenced in 1867; much trouble occurred with the more ignorant section of the public who persisted in believing it was an evil thing. In 1884 J. joined the telegraph union. The telephone was adopted in 1877, a year after it was invented. Wireless telegraphy is now in use for the army, navy, and shipping industry. Roads in J. are divided into three classes: state roads, prefectural roads, and village roads. They are generally well kept, and the government gives an annual grant for assisting their upkeep and improvement. The first electric tramway was constructed in Kyoto in 1895; there are now several electric railways and tramways running in the larger cities. Drainage has improved rapidly, the usual Western methods of street scavenging being employed in all the towns and cities. Cremation is encouraged with much success, and crematoria have been established in Tokyo and Osaka; other like places are now being arranged all over the empire.

Shipping.—J.'s shipping industry is well on the increase. Her exports grow in bulk annually, having increased fourfold in the last few years. The chief are silk, cotton, grain, and seeds, tea, and marine products, etc. The United States and China take the bulk of these, then Britain, while India buys two-thirds of the raw cotton. The number of sailing ships engaged in trade averages about 8937, and the number of mercantile steamers is a
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among other flourishing ports are Shimonoseki, Nagasaki, Tsuruga, Otaru, etc.

Education.—
great strides.
is now compul
six to fourteen years of age. There are over 27,000 elementary schools and a considerable number of high schools, army and navy schools, and departmental schools, which include the study of communications, marine industry, agriculture, and commerce. There are also legal schools and private schools of general instruction; also universities at Tokyo and Kyoto. The education of the girls is nearly as well looked after as that of the boys; the girls' high schools are increasing in number, and also the higher schools and certain colleges for girls, both technical and industrial. There are kindergarten schools for the little children of three years of age, but these are not compulsory or part of the national system.

Army.—From the 12th century till the great revolution of the middle of the 19th century the fighting power was restricted to a hereditary military caste, the *samurai* or *bushi*, whose history, rise, and fall, is sketched in the section *History* below. Their weapons were the bow, the single-edged curved sword, and spear. The armour was of a special type which lasted unchanged till 1871. A combination of metal plates and scales sewn on leather, often highly decorated with
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rendering him in appearance bulky and unwieldy. The samurai served as feudal retainers of the great families. Finally the great Taria and

the introduction of firearms, following on the disasters of foreign interference, brought about a remodelling of the citizen (*heimiu.* commoner) army on Western lines. Furtively
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By 1876 the army on a war foot
ing reached nearly 50,000, and in 1877 successfully met the Satsuma

rebellion and defeated the old samurai. The evolution of the army progressed rapidly, and the Chino-Japanese War tested the capacities of the new force, and in the Japanese expedition to Pekin in 1900. Valuable lessons were then learned and the Russian War saw 800,000 troops in the field. Improvements followed, and now by the Imperial ordinance of 1909 the military forces consist of the Active Army, liable to serve abroad, and the National Army, both in the reserves. There are militia forces in some of the islands. Service is compulsory from seventeen to forty, but embodiment is deferred till twenty. Two years' service (infantry, three years' (other arms) with the colours, seven and a half in first reserve, ten with the second reserve. The active army establishment is estimated at 550,000, with additions for garrisons abroad, and 150,000 special reserves; 370,000 for the second line, and some 110,000 for territorial corps. It is estimated that J. can place 1,500,000 men in the field, with an ultimate force of nearly 3,000,000. In the active army there are 176 infantry regiments (3 battalions), 27 cavalry regiments, 30 field artillery regiments (6 batteries) with 6 siege and heavy field artillery regiments. The medical and transport service proved their admirable organisation and equipment in the Russian War. The cost of the army amounts to from £8,000,000 to £10,000,000 yearly.

Navy.—In the early days, as we know from the dread of foreign invasion and the wars with Korea and Kublai Khan, J.'s navy was insignificant. In 1635 the policy of isolation led the Tokugawa government to forbid the building of any vessel capable of crossing the ocean, and the foreign aggression of the middle 19th century showed J. defenceless before foreign sea-power. The nucleus of the navy was formed with a gift of two war vessels from the Dutch and Queen Victoria, and two purchased from the Dutch. Gradually a small force was organised, trained by British officers, under Sir Archibald Douglas. The fleet played a part in the Satsuma rebellion, and later J. began to build herself. Her first ironclad was built in England, 1878. At the opening of the war with China the navy consisted of 28 vessels, and 29 torpedo-boats; there were no battleships, while the Chinese possessed two powerful armoured ships of the line. The naval victories resulted in immediate building on a large scale chiefly in Europe, and the Russian War saw her with 6 battleships, 8 armoured cruisers, 44 other cruisers, and 100 destroyers and torpedo-boats.] The crushing defeats of the Russian navy off Port Arthur and Togo's victory in the Straits of Tsushima proved the naval power of J. in the Pacific. The latest statistics give 16 battleships, 1 building, the latter over 30,000 tons, 13 armoured cruisers, 4 of the largest type building, 19 protected cruisers, 2 building, 120 destroyers, torpedo-boats, etc., with 12 submarines and 3 building. The naval estimates, 1912-13, provide for £9,270,000, £3,250,000 being for new construction. The ultimate plans for expansion show a battle fleet of 21, capable of overcoming the most dangerous naval power in the Pacific. There are 65,000 officers and men available for active service.

Finance.—The revenue of J. amounted to (1910-11) £67,250,000, (1911-12) £58,500,000, (1912-13) £58,750,000; expenditure to £57,000,000, £58,500,000, £58,750,000. The principal sources of revenue are the land tax, graduated from 3 per cent. to 17½ per cent. according to the class and value of land; the income tax, introduced 1887, varying from 2 per cent. to 8 per cent.; a business tax levied on amount of sales, and a valuable tax on alcoholic liquors. There are many other taxes, *e.g.* on sugar, kerosene, mining, issue of banknotes, etc., and on consumption of textile fabrics. In addition J. is a protected country and collects a large proportion of her revenue from customs. In 1911 her imports amounted to £51,250,000, her exports to £44,750,000. The unit coin of account is the *yen*, a fraction over 2s. in value.

Dress, customs, etc.—The costume of the country is picturesque and distinctive, though fast becoming Europeanised. The men wear a silk or cotton shirt with an under jacket in the winter, and a wadded outside gown (*kimono*) perhaps two, in the coldest weather, a narrow sash is worn round the waist, and for ceremonial purposes wide trousers and a stiff coat are used; these clothes are usually made of silk, and are often in beautiful colours with handsome embroideries; the head is usually bare, though occasionally a large straw hat is used, socks and sandals cover the feet, and wooden clogs are worn in the wet weather. The women wear a silk shirt and a *kimono*, kept in place by a narrow belt over which is worn the big sash or *obi*. The materials are usually costly and beautifully embroidered and are handed down from mother to daughter. Their hair is very carefully dressed and piled with combs and flowers. The children are gaily dressed in the same fashion as their parents. Unfortunately Western clothes are being worn more and more.

The chief food of the country is rice, and this is served at all three meals, cooked in various ways with fish, eggs, vegetables, and many kinds of pickles; very little meat is eaten, though beef is increasing in consumption. Soups made of fish, vegetables, or chestnuts, are popular, sweet cakes and sugar plums are made in large quantities and of very good quality. Chopsticks are used instead of knives and forks. Guests are served with small portions of food at a time, each person having a separate little table. The drink called *saki*, made from fermented rice is a very favourite beverage; large quantities of tea are drunk, and the ceremonies attending tea-parties, etc., are both ancient and interesting. The tea-ceremony is believed to have been introduced into J. from China, 805 A.D., and the drinking of tea appears to have started as a more or less religious institution among the Buddhist priests; about 1330 it was adopted by the Daimyos and wealthy nobles. At their famous tea-parties each guest had to guess where the tea they drank had been produced, if they guessed right they were given one of the valuable presents which adorned the room where they were entertained. These gifts, often rare and beautiful, should afterwards be presented to the singing and dancing girls who entertained the tea-party. It became an exaggerated craze among the upper classes, and was carried to such an extraordinary length that even large fortunes were dissipated. One unfortunate man called Sen-no-Rikyu (1594), during the time of the great Hideyoshi, c to codify the tea ceremonies, an came the hero of tea drinkers; he however, unable to resist rec money or favours for his skil connoisseur, and Hideyoshi h man put to death. The tea is in many forms; in one, the lea reduced to a powder and t appears as thick as soup; thinner mixture is known as The drinkng of tea is even to-day always formal and ceremonious, and each action and gesture is arranged by a code of rules; the rooms are swept, the hands are washed, a bell is rung, while the guests walk from the house to the garden and back again, to sit before their separate little tables and drink solemnly the tiny cups of tea. The usual method of getting about the towns is in a *jinrikisha*, or little cart pulled by a man, who charges so much a mile. By nature the Japanese are exceedingly clean. Every one, men, women and children, bathes frequently, some several times a day. In the winter the hot baths help to keep the people warm, especially the children who are popped into a hot bath sometimes five or six times in one day. The natural hot springs all over the country give easy access to hot bathing. Every ordinary private house has its bath-room, and every town its public baths besides; in the capital, Tokyo, there are over 800 public baths. The geisha or singing-girls are a class well known to the European both in literature and drama. The girls are often beautiful, generally charming, and able to talk, sing, and dance, and please the people whom they entertain. They are usually apprenticed in their seventh year and can rarely reach independence unless they marry, which they generally do. From two to four yen a month are paid to the state for the girls by their proprietors. Few Japanese social gatherings would be complete without these pleasing entertainers.

Language and literature. — With the exception of the Luchu Islands, no other country claims relationship to the Japanese language. Some authorities include it in the 'Altaic group'; it is an agglutinative tongue. Many Chinese words are employed, especially for new words, such as 'bicycle.' It is exceedingly difficult to learn, and a great deal of Chinese must be understood as well. There are practically three languages to learn, the ordinary, the polite, and the written, which all differ in an extraordinary degree. The literature of the country is frequently written in Chinese, and until the Chinese known by the is no written literabook we know of is

s included; much of it is e. The next book, written ie *Nihongi* (Chronicles of Japan). It was written entirely in Chinese, and from that time most of the literature was published in Chinese. Another book, about 760 A.D., is called the *Manyoshiu, or Collection of the Myriad Leaves*, an anthology of the ancient poems. There are several histories, notably the *Nihon Gwaishi*, a few law books, and a great deal of poetry. The classical romances are exceedingly charming, such as the fairy story entitled *Taketori Mono-gatari*, etc. Among the diaries is one called *Murasaki Shikibu Niki*, written by a Japanese authoress, and very difficult to read. Women have always largely

influenced the literature of the country, and have added many works of merit and charm. During the time of peace under the rule of the Tokugawa Shoguns, philosophy was much studied, while popular romances and drama became common. They were, however, mainly influenced by the Chinese, and were often extravagant and horrible, but not a few were realistic and humorous. After the Restoration an enormous quantity of English and French works were translated and published, naturally influencing the literature of the time. Of the modern authors there are three who should be mentioned: Rohan Koda, professor of literature at Kyoto University, Futabei Hasegawa, and Ogai Mori, a surgeon-general and chief of the medical bureau of the army. Among the many authoresses, one named Ichiyo Higuchi borders on genius in her life-like tales; she died very young; her stories were filled with charm, yet true to real life. There are now several newspapers and journals. Yokohama produced the first daily paper, 1871, also the first English journal, *The Japan Mail*, 1865. Among the principal papers are, *Chugai Shogo Shimpo*, and the *Japan Times*, etc. There are also a great many excellent

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drama has not progressed as rapidly as its sister arts, however great hopes are entertained for its development. For years the chief plays have been

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music is at present in its infancy, and to the ears of Europeans seems neither pleasant nor melodious.

Art. — The architecture of the country has never attained the great or grand, small things are made perfect in J., but not always very large things. Quaint grace and wonderful curves may be met, but no wonderfully proportioned and impressive building greets the stranger, no domes or minarets, or massive structures, but lightly built houses and temples of wood and thatch, or sometimes tiled roofs. Walls are scarce, the sides and divisions of houses being of opaque paper screens, replaced in winter by wooden doors that slide into their places. Even the great temples are composed of wood and matting, the wood-carving being wonderful and beautiful. The view of a town from a height appears extraordinarily flat and uniform, only an occasional pagoda rearing its beautiful head among the trees. The Japanese architect excels in beautiful detail, but the grand proportions and sometimes overwhelming beauty of the great Western structures have never yet appealed to him.

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rank grass or a clump of bamboo will be completely beautiful. The first attempt at painting may have been inspired by Chinese art, but certainly the art has existed in J. for twelve centuries. Till recently the European was accustomed to regard the whole art of J. as purely decorative; we are so familiar with [illegible] etc., with the curious design and sculptures have only comparatively recently been brought to the Western man's notice. The Japanese themselves knew little of their own historic masterpieces which were hidden in the Buddhist temples, or in private hands. Since 1897, when national treasures became protected, and reproductions were published, the real art of the nation has become better known. The nude has never appealed to the Japanese as the most perfect creation, the draped figure always appearing far more beautiful. The growth of painting should be

[illegible] into six periods: (1) From the
[illegible] the 9th century, mainly in-
[illegible] by the Chinese; (2) from the
5th century, when schools of painting were established and the Chinese influence began to fade; (3) from the 15th to 17th century, when the revival of Chinese art took place; (4) from the 17th to the 18th century, when a more popular school became established; (5) from the 18th to the 19th century, when European art influenced the schools; (6) when the present progressive schools began. The oldest painting of whose existence we know, is a mural decoration in the hall of the temple of Horyu-ji, near Nara, attributed to a Korean priest named Doncho about the 6th century. It clearly shows the colouring and construction of a late example of Buddhist art. The first native artist whom we know as famous, was a noble named Kosé-no-Kanaoka, at the court of the Emperor Seiwa, about 850 A.D.; very few of his works have lived for us to see, and those that have are chiefly conventional in design, but most perfect in their blending of

colours. His descendants who continued to the close of the 15th century were famous artists, and founded the native school of Wa-gwa-ryu; the followers of this particular branch of painting delighted in quaint animals and insects, such as grasshoppers, frogs, [illegible] which [illegible] ordinary charm and vitality. During the 12th century a priest named Toba Sojo distinguished himself by adopting the school of Wa-gwa-ryu, inarsening wit and of his ollowers worthy of note carried on his humorous teaching. During the 15th century two Buddhist priests became very famous, Cho Denshu, and Josetsu. The former painted religious subjects, and the latte[illegible] A little late[illegible] probably a Yamato-ryu school, and believed to be the pupil of Jositsu, who also instructed Shubun and Sesshu. These three became the leaders of three famous schools of painting. The Kano school has outlived the other two, it is still followed to-day, with its generous breadth of idea, its extreme simplicity, and its brilliant colour-schemes. A new development of art began with Hishigawa Moronobu (*d.* 1713); his pictures are filled with delicate work; he gave J. her first beautiful wood-engravings and illustrated books with realistic and delightful pictures. About 1775 an artist, Okyo, became famous, who represented animal life with extraordinary perfection. He instructed many famous pupils, and his followers still continue. Following the Kano school came Ogata Korin (*d.* 1716), a man who left his eccentric and vivid influence on the works of his many pupils; he also excelled in lacquer work. Hokusai Nakajima Tet-Sujiro (*d.* 1849) is another well-known name; his thirty-six views of Mount Fuji are of remarkable beauty. He illustrated numberless books, and represented both animal and vegetable life with accuracy and vividness. He was followed by a flood of artists, many of whom rose to fame. After the arrival of Commodore Perry, art languished—there were more urgent things to do. The year 1889 saw the last of the old schools; Kyosai, whose favourite themes were ghosts and skeletons, ended the ancient traditions. Later came a revival, and to-day J. owns many famous men. In 1913 the anonymous purchaser of Mr. Arthur Morrison's magnificent collection of Japanese paintings presented them to the British Museum, and a fuller knowledge and appreciation of Japanese art at its best will certainly result. Sculptures and carving in metal and wood has been a highly developed art in J. for twelve centuries; many of the temples are store-houses of fine examples, going back as far as the 6th century. Sacred images were not the only subjects for the glyptic art, bells, vases, candlesticks, lanterns, arms, and armour, all were objects for the artist's skill. Stone was never used to any extent, but bronze, ivory, and wood have always been employed from the earliest times. The most perfect ancient bronze is the image of Bhaicha-djyaguru, in the temple at Nara. Nara possessed a school of sculpture in wood as early as the 11th century. One of the most famous of the country's sculptors was Hidari Jingoro (*d.* 1634). He left a large school behind him; some of his chief works were the gateway of the temple at Kyoto and the decorations to the mausoleum of Iyeyasu at Nikko. The elaborate metalwork of the sword hilt, when every noble and samurai carried a sword, were for over 400 years wonderful works of art. Some of these hilts with their guards are objects of rare beauty; the work was both skilful in design and in choice of metals. The sword being practically the most precious possession of the samurai, its decoration and design became a matter of serious artistic thought. Whole families became sword sculptors, and many of these were held in great esteem, while the swords themselves were handed down as family heirlooms. The art of inlaying with gold and silver became highly developed at a very early time, and very beautiful effects have been accomplished. A great deal of their bronze work is very fine, one particular kind which colours to a golden yellow is exceptionally remarkable, and the Japanese have excelled in this particular branch of metalwork; they mastered the art of casting bronze at an early date, and have steadily progressed to make perfect what they knew. The common domestic flower vases, alcove ornaments and incense burners are often of exceeding beauty of design and workmanship. The great Bronze Buddha at Nara, and the huge Amida at Kama-Kura, are a proof of their early skill in casting large subjects. Another branch of art grew quickly with the use of tobacco, and this was the carving of *netsuke*, or buttons employed to suspend the tobacco pouch from the girdle, also the bowl of the pipe and the pouch clasps, all these became the completely beautiful furniture of a man's smoking

outfit, just as the guard and the hilt of the sword had been the chief possession of the samurai. The little *netsuke* are made of wood or ivory, and are often very quaint and charming, and always of beautiful workmanship. Closely on the heels of the *netsuke* came the *okimono*, little ornaments, wonderful copies of crayfish, dragons, eagles, birds, and the like; some were of large size, but many of the most perfect are tiny little productions to delight either an artist or a child. Wood-carving has, from very ancient days, been one of J.'s greatest arts. The temples bear the records of centuries of exquisite work, but seldom the name of the artists. The smaller wooden figures of the Buddha familiar to the European, gilded, and carved with such placid faces, in folded drapery, with lotus petals carved for their canopy, are graceful examples of the work of the Japanese wood-carver. The art of lacquering was a gift from China at the beginning of the 6th century. Plain black lacquer was the first achievement, later mother-of-pearl and gold dust decorated the work, followed by conventional patterns, and still later by floral designs of great beauty. The interior of the temples and castles were adorned with the most elaborate lacquer work. In all the finer examples of this art gold predominates, and the effect is rich and soft. Enamelling is another development of the modern Japanese artist. To-day vases, bowls, censers, etc., can be obtained in the finest Cloisonné enamel work. The translucent enamels are wonderfully decorative, both in delicate design and exquisite colouring. Japanese art must always appear different from the art of other countries; in one sense it is impressionist by reason of its choice of subjects and want of detailed background, yet in another sense the perfect painting of every petal, feather, or feature, makes their productions anything but impressionist. The whole art, just as their real national character, stands out to perfect themselves in the one main object and to disregard all superfluities.

History.—The racial origin of the Japanese people is still a matter of dispute. The ancient chronicles of the country will tell you that the god Ninigi descended on an eastern peak of the mountain Kirishima-yama, on the island Kyusha, as the forerunner of their first emperor named Jimmu, about 660 B.C. Before this date they have no written history. The Ainu, or Ainos, appear to have been the inhabitants of J. when the present people migrated from the adjacent continent, though which part they came from is not proved. The Ainu came from Siberia, and they appear to have found a primitive aboriginal tribe who dwelt in pits and who had been (if they were not then) cannibals. The Ainu drove these people N. and established themselves on the main part of the islands. They worship the bear and have curious customs and ceremonies attached to the veneration of the bear family—one among others being a great festival held in the autumn, the main feature of this is the slaughter of a bear that has been brought up in the village and kept in a cage; the animal is made savage by want of food before the festival, and at a given signal is liberated and despatched by hunters; the carcass is then cut up and a great feast is held; the reason or origin of this custom is unknown. The hair of the Ainus is very abundant, often growing thickly on the bodies as well as the head and chin; they were formerly a fierce race, but centuries of oppression have reduced them to a quiet and submissive people. The Japanese generally despise them and refer to them as earth-spiders and barbarians. They are certainly a dirty, drunken, and lazy race, with no desire to progress. There are not many left now. Of the coming of the Japanese and the first fierce fights for supremacy very little can be written. The real known history begins with the Emperor Jimmu Jenno; the date ascribed to his accession is 660 B.C., but it was probably later; from him all the emperors of J. are descended. In 200 A.D. a warrior empress called Jingo invaded Korea, crossing from J. with a large fleet and successfully subduing a part of Korea. About 500 A.D. the inhabitants became properly one nation, a mixture of Ainu, Mongol, and Malay, ruled by one emperor. Down to 670 the records are so vague and wrapped with legends that it is impossible to say accurately what occurred. About 670 the noble family of Fujiwara becomes prominent. They governed as agents of the emperor, spending his revenues and oppressing the people. It became customary for the empress to be chosen from their daughters; thus the early training of the royal children became part of the privileges of this powerful house which, in fact, though not in name, ruled the empire. They gave J. many scholars and statesmen, but being without soldiers or money, except for the imperial revenues, they were gradually ousted by the warrior families of Taira and Minamoto. These two families were at constant war with each other. The Taira were

finally exterminated by the Minamoto, about 1100 A.D. For some years after this Yoritomo the chief of the Minamoto ruled the empire under the title of Sei-i-tai Shogun. He proved himself a strong and able governor. His establishment of military feudalism, though placing the civilian in a subordinate position, procured a short period of peace for the country. The emperor was merely a sacred [illegible] this time, [illegible] and flatte[illegible] desire, but without power. Yoritomo died in 1198, and the family of Hojo, who acted to the Shoguns in the same capacity that the Fujiwara had acted to the imperial family, became the most powerful. The Emperor of China, Kublai Khan, demanded that J. should recognise his suzerainty (1280); on their refusal a large fleet was sent which was destroyed off the coast of [illegible] free.

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The [illegible] (which was the title of the head of the Hojo house) had thirty-seven mistresses and 2000 dancers. The people grew restless under this extravagance, and an organised revolt succeeded in driving out the family and restoring power to the Emperor Go-Daigo, 1334. Unfortunately, the emperor was an incompetent person, and being obliged to abdicate he fled to the S., chased by the soldiers of Ashikaga Takauji. Much trouble and petty warfare ensued [illegible] of the imperi[illegible] sovereign; the Shogunate was in a wretc[illegible] poverished by the internal struggles. When the Emperor Go-Isuchi died there was no money to bury him, and it was forty days before enough could be collected. The great fortified monasteries of the Buddhist monks were a source of terrible misery to their surrounding neighbours, whom they plundered at will. The depth of the country's wretchedness can be realised when we know that China *allowed* the title of king, not emperor of J., to continue upon an annual payment of a thousand ounces of gold. From 1565-1600 only the strongest warriors could hold any real power, and thus it came about that a low-born groom became the first man in the empire. This man, named Hideyoshi, was noted for his ugliness, his quick wit, and his courage. He is one of the national heroes of J., and artist and author have given him undying fam[illegible] other man, a common soldier, powerful at the same time, Tokugawa Iyeyasu. These two men came to an agreement and between them overcame the remaining great warrior families. On the death of Hideyoshi, Iyeyasu fought for the supremacy and finally gained it in the great battle of Sekigahara. Afterwards he claimed the title of Shogun, and thus founded the line of Tokugawa Shoguns, who ruled till 1868. Kyoto had formerly been the capital but Iyeyasu substituted Yedo. The military families (known as Samurai) were now subject to the closest inspection; their estates and incomes were assessed by the Shogun's officials. The Daimyo or feudal chief generally held a castle occupying a commanding position. At this period the right of wearing a sword was the highest privilege, wealth was of little consideration, honour, courage, loyalty, and filial piety ranking first in the code of ethics followed by the Samurai. They were a strong, hard, unforgiving, yet brave and courteous race of men. The relations of the Daimyo to the Samurai corresponded to those of the mediæval European baron, knight, and squire. Iyeyasu Tokugawa established a military rule of the empire, and under its strength and protection J. found peace for two and a half centuries. He stands among the greatest of J.'s statesmen, and his system of government assisted enormously to increase the wealth of the country. One of the regulations he enforced was that the Daimyos should reside at Yedo at stated intervals, leaving their families as hostages during their absence. Under the early rule of the Tokugawa Shoguns foreigners were welcomed and regular intercourse between Japanese and Europeans began in the 16th century. Commercial interest had commenced with Portugal about 1542. A Portuguese vessel was blown from her course and by accident landed on an island S. of Satsuma. They sold the Japanese some arquebuses and receiving orders for more, seven expeditions were successfully carried out during the next few years. The Church of Rome now conceived the idea that J. would be a great field for missionary operations, and accordingly Jesuits were entrusted with the work. Francis Xavier sailed for J., and being well received he commenced preaching his doctrine. The Japanese, always tolerant and broad-minded, made no objection to the introduction of a new creed, which also brought them trade and wealth from other countries. The Jesuits made good [illegible] converts, but [illegible] nd bigotry led [illegible] denounced as

agitators. Some Franciscans arrived and quarrelled with the Jesuits, and following this the Dutch commenced trading with J.; they, being rigid Protestants, were naturally unfriendly with both Spanish and Portuguese, thus the peaceable, lighthearted natives were amazed at the edifying spectacle of all the Europeans quarrelling violently among themselves. The Japanese became alarmed, the creeds of these foreigners appeared to them merciless and fanatical, and they feared that equally unpleasant kings would follow up these persons and invade their country, therefore the simplest method of curing this condition was applied. The Spaniards were expelled in 1624, the Portuguese in 1638, and the native converts who refused to give up this foreign creed were exterminated. The final tragedy of these poor souls took place at the castle of Hara, known as the revolt of the Shima-bara. The Dutch traders were not expelled, but were subjected to severe and humiliating restrictions. No general dealings with foreigners were allowed. Ocean-going ships were no longer permitted to be built. The country having rid herself successfully of these turbulent foreigners and being wearied with her internal troubles, now set about finding rest and recuperating herself. The policy of the Tokugawa Shoguns was entirely peaceable, very simple, and quite effective. The first Englishman to reach J. was one William Adams (*d.* 1620). He was pilot on a Dutch trading vessel, and stress of weather drove the ship *Charity* to the island of Kiushiu. He was summoned to Osaka, and Iyeyasu Tokugawa, appreciating his knowledge of shipbuilding and ships, refused to allow him to return home. He was presented with an estate at Hemi near Yokosuka, married a Japanese wife, and became known and beloved as Anjin Sama. His memory is preserved by the name of a street in Yedo and an annual festival on June 15. The country now thoroughly revelled in its peace and increasing prosperity, and the Tokugawa Shoguns, following up the policy of Iyeyasu, succeeded each other undisturbed. During this time, however, J. was still able to profit by intercourse with the Dutch and Chinese, while peace gave more time for education, which bred the desire for progress. Slowly but inevitably the more intellectual classes began to regard the absolute power of the Shoguns as tyrannical. In 1853 the United States sent Commodore Perry with four ships of war to open diplomatic relations, a Russian ship arrived in the same year on the same errand. J. now woke up to the folly of having isolated herself from the progress of other countries. Commodore Perry made his proposals and sailed away, purposing to return in a few months. J. wildly flung all her energies into feverish attempts to build forts, collect troops, and build ocean-going ships once more. They besought the Dutch traders to aid them with scientific works and explanations of modern warfare. The result was that they suddenly and fully realised their absolute inefficiency, and with truly national sense decided to agree with Commodore Perry's demands of American trade and safety for shipwrecked sailors. Perry showed them a model telegraph and a model railway, which delighted and amazed the Japanese. Here you have the astounding fact of a nation wondering at a model railway in 1853, while by 1905 they had defeated a great European power with its own modern weapons. Can any other nation boast of so quick, wonderful, and complete an adaptation of modern methods? The coming of Perry and the subsequent awakening of the country led to the downfall of the Shogunate. The Daimyos were called together to advise, but they adopted the hopeless attitude of resisting the foreigners by force. The Shogun understood the position only too clearly; he was a far-sighted able statesman; his decision was to sign the treaty with Perry and further treaties with Russia, England, and the Netherlands. Europe having barely recovered from her own troubles of 1848, forced no undue pressure upon J. In signing those treaties the Shogun knew that he signed his own downfall. The Daimyos rose against him, 'expel the foreigner' became the popular cry. The Daimyo of Hikone, who supported the Shogun, was murdered by the Daimyo of Mito. A British subject named Richardson was murdered by the retainers of the Daimyo of Satsuma; terrible vengeance was taken for his sake, the city of Kagoshima belonging to the Satsuma was bombarded and utterly destroyed. The Choshu chief who commanded the entrance to the inland sea at Shimonoseki fired upon foreign ships, the emperor having given him an edict without the knowledge of the Shogun. A squadron of British men-of-war demolished the forts of the Choshu and destroyed his ships. A fine of 3,000,000 dollars was imposed upon the Choshu; his capital being in the hands of the invaders, while he was in revolt against the Shogun, who therefore could not

collect the debt. Sir Harry Parkes, entrusted with the British interests in Japan, arranged that part of the debt should be remitted on the ratification of the treaties. This ended the power of the Shogun. A foreign fleet was anchored off the entrance to the sacred city of Kyoto, where the emperor resided. That monarch dismissed the officials the Shogun had appointed to carry out the negotiations, the Shogun resigned in 1865, and was succeeded by Keiki, the last of the Tokugawa rulers. From this time on J. began to take her right place among progressive nations. The emperor became the head in fact and not in theory. In 1871 an imperial decree abolished local autonomy. The feudal system was to be a thing of the past. In 1876 the pensions of the Samurai were commuted and swords were forbidden to be worn. In submitting to this without a murmur, and sinking all personal interest before the welfare of the nation, they showed a heroic loyalty. The Satsuma clan alone remained conservative and rose against the government. They intended to restore the Samurai and secure the governing power for Satsuma. They were 30,000 strong and well equipped. The struggle began in January 1877 and ended in September; it was bitter and terrible, over 35,000 men were killed or disabled at the finish. The Samurai were defeated and the country realised its own strength in the government forces who were mainly of the civilian, non-military class. This ended further trouble with the Samurai; many of these men, loyal to their creed of honour, retired to the mountains and died by their own hands, suicide under the name of *Harakiri* being an honourable death. This custom had always been followed by the Samurai in cases of hopeless trouble or from the wish to follow a dead superior; the wives of the feudal nobles and Samurai also occasionally despatched themselves when honour or loyalty

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has always ranked high in the esteem of the Japanese. The country now set herself the difficult task of thoroughly learning and practising the institutions of Europe and America. Some fifty-five men, by no means all noble, commenced the work of reconstruction. Many were murdered, some were executed, and not a few broke down with overwork. Among the greatest names honoured ever more by their country are Prince Ito, who framed the first constitution for Japan, a man full of energy, courage, and state-craft, who served his country splendidly and died by the hand of a mad assassin in Korea, Saigo Takamori, Itagaki, Okubo Kido, and others. The next period is known as the Meiji era. Englishmen were employed in the construction of railways, telegraphs, etc., and the organisation of the navy; Americans arranged her system of postal service, also her agricultural arrangements and her education; Frenchmen trained her soldiers in modern tactics and recast the laws, while Germans assisted with medical science and local government. Her new system of education began at once, and it grew and prospered in an astonishing manner. In 1889 the Emperor Mutsuhito gave J. her present constitution. The next difficulty the country had to face was the question of Korea; that peninsula was too close to the vital part of J. to be a comfortable home for another nation. China was not anxious to see Korea occupied by the Japanese any more than the latter were to see it governed by China. Matters reached a crisis in July 1894, and war was declared between the two countries. The struggle became a succession of victories for J. First, a naval encounter took place between three Chinese battleships and three Japanese cruisers. One Chinese ship was taken, one shattered and rendered useless, and the third escaped badly damaged. The first land victory took place at Phyong-yang, the Chinese lost 6000 men and the Japanese only 700. Then came the naval battle off the mouth of the Yalu R.. which proved a disastrous defeat for China; J. then seized the Chinese naval ports of Talien, Port Arthur, and Wei-hai-wei, the latter offered serious resistance, and great courage was shown by both sides. The Chinese commander, Admiral Ting, committed suicide, unable to bear the fancied disgrace of defeat. This was the end of the war. The treaty of Shimonoseki (1895) declared Korea absolutely independent, ceded to J. part of Manchuria, Formosa, and the Pescadores, compelling China to pay 200,000,000 taels indemnity. J.'s victory was hard won, it cost 20,000 lives and £20,000,000. The interference of the European Powers and her own crippled condition compelled her to give back to China the territory on the mainland, together with Port Arthur. J. retired quietly and with dignity to prepare herself for a grimmer and more terrible struggle that she knew now to be inevitable. In 1902 a defensive alliance was concluded with Great

Britain. The gradual encroachment of Russia in Korea and the concessions granted to that country by China were watched by J. with increasing anxiety. In 1904 matters came to the expected crisis, and J. declared war against Russia (*see* RUSSO-JAPANESE WAR). To the amazement of Europe, Russia was defeated, peace was concluded in 1905, and a treaty was signed at Portsmouth, New Hampshire, U.S.A. In 1905 the new Anglo-Japanese treaty was signed in London for the purpose of maintaining peace in Eastern Asia, ensuring the integrity and independence of China with the policy of the 'open door' for all nations, and for the mutual defence of the territorial rights of the two contracting Powers in the Far East and India. In 1911 this was renewed for ten years with modifications and a new clause in reference to arbitration treaties with any third Power. The integrity of China was the basis of agreements with Russia and France (1907), and a common policy in regard to Far Eastern and Pacific questions was formulated in identical notes between J. and the U.S.A. in 1908. In 1910, 1911, and 1912 agreements were signed with Russia in reference to China, Manchuria, and Mongolia. The great Emperor Mut-suhito died in 1912; he had reigned for forty-five years. On his accession he had inherited a petty Oriental state, at his death he left his son an empire which had taken her place among the family of the great Western nations. A pathetic incident of the Japanese characteristic loyalty and devotion marked the day of the emperor's funeral; General Nogi and his wife committed 'honourable suicide' according to the old established custom. The emperor's third son, Yoshihito Harunomiya, succeeded him, and continues his father's wise, progressive rule. In 1912 a conspiracy against the Japanese governor-general of Korea, Count Terachi, was discovered and a number of arrests were made, many of the prisoners being Christian converts. Gross irregularity and tortures were alleged by the missionaries, and the legality of the trial and sentences has been gravely questioned. In adopting Western parliamentary government, J. combined also the older autocratic system, and the constitutional position has been the cause of much political agitation and party conflict. The most active and numerically strongest party is the *Seiyu-Kai*, or Constitutional Political Association; at the election of 1912 they numbered 217. The next strongest is the *Kokunciu To*, or Popular Progressive party, which combined with the *Boshiu*, or commercial and business party, in 1910. The great question at issue is the solution of the constitutional problem of the relation of the cabinet, dependent on the will of the emperor to the diet with its fairly evenly balanced parties, who with political aptitude have hardly as yet shown their power to produce capable administrators. It was the 'Elder Statesmen' of the old régime that brought J. to her position, and the question will be to supply their place. It is not surprising that parliamentary crises and resignations of prime ministers have been frequent. *See* Captain F. Binkley, *Japan* (12 vols.), 1905, and his exhaustive article in *Ency. Brit.* (11th ed.); R. P. Porter, *The Full Recognition of Japan*, 1911; Count Okuma, *Fifty Years of New Japan* (ed. by M. B. Huish), 1909; for social customs, etc., B. H. Chamberlain, *Things Japanese* (4th ed.), 1902, etc.; Lafcadio Hearn's works, especially *Japan, an Interpretation*.

Japanning, the art of varnishing in colours the surfaces of metal, wood, etc., the varnish being dried and hardened on in stoves or hot chambers. The process is so called from an imitation of the celebrated lacquering of Japan, which, however, is far more brilliant and beautiful, as well as durable, than ordinary japan work. The most common style of the work is black japan, which consists of asphaltum mixed with gum, turpentine, and linseed oil, several coats of the mixture being applied and allowed to dry separately, afterwards being rubbed down with powdered pumice-stone and then polished. After thick coatings a brilliant black is shown. Japanned works are usually of iron and tin, such as deed-boxes, trays, canisters, clock-dials, etc.

Japan, Sea of, divides the islands of Japan from Korea and Eastern Siberia. It is almost tideless and extends about 600 m. from E. to W. and 500 m. from N. to S. with an average depth of 1200 fathoms.

Japheth, one of the sons of Noah, the youngest according to Gen. v. 32, but the second according to Gen. ix. 24. He is the father of one of the three great divisions of the nations of the world (*see* ETHNOLOGY). Among his sons was Javan, the ancestor of the Ionians. The name Japhetic has been applied loosely to peoples of European stock who are now classed as Aryan and Indo-Germanic.

Japp, Alexander Hay (1839-1905), a Scottish author and editor, known under the pseudonym H. A. Page, born at Dun in Forfarshire. He edited the *Sunday Magazine*, and sub-edited

the *Contemporary Review*. His works include: Lives of Thoreau (1878), De Quincey(1877) and [illegible] *Memorials o* [illegible] *Hours in my G* [illegible] *of the Year*, [illegible] 1894; *Adam* [illegible] *from the Rabbins and other Doctors*, 1899; *Some Heresies dealt with*, 1899; *Her Part*, 1900; and *Darwin as Ethical Thinker*, 1901.

Jardine, Sir William (1800-74), a Scottish naturalist and author, born in Edinburgh. He contributed the sections on birds and fishes to the Naturalist's Library (40 vols.), 1843, and was joint editor of the *Edinburgh Philosophical Journal*. His publications include: *Illustrations of Ornithology*, 1830; *The Ichnology of Annandale*, 1853; *Birds of Great Britain and Ireland* (posthumously), 1876.

Jargoon, the name applied to certain varieties of zircon, which can be cut as gems, but are not of the reddish colour of the jacinth. Some Js. are colourless, and others are tinged with green, yellow, or red, the lustre being very near to that of a diamond.

Jarkent, a tn. of Russian Central Asia, prov. of Semiryechensk, near the R. Ili, 70 m. W.N.W. of Kulja. Pop. 16,372.

Jarnac, a tn. in Western France, dept. Charente, on the r. b. of the R. Charente, 7 m. S.E. of Cognac. Brandy, wine, and wine casks are manufactured. Louis, Prince de Condé, was killed here in the victory of the Duke of Anjou over the Huguenots (March 13, 1569). Pop. 4493.

Jaro, a tn. of the prov. of Iloilo, Philippine Islands, 4 m. N.W. of the cap. Iloilo. It has a large trade in sugar and agricultural produce. Until 1908 it was part of the town of Iloilo. Pop. 10,680.

Jaromer, or **Jaromierz**, a tn. in Bohemia, on the R. Elbe, 68 m. E.N.E. of Prague. There are manufs. of sugar and jute. Pop. 8213.

Jaroslau, a tn. in Galicia, Austria, on the R. San, 60 m. N.W. of Lemberg. Has manufs. of confectionery, cloth, pottery, and brandy. Pop. 24,974.

Jarrah, or *Eucalyptus marginata*, also known as the mahogany gum-tree. It is a species of Myrtaceæ indigenous to S.W. Australia, and is much valued on account of its wood, which is used in building and furniture-making.

Jarrow, a seaport, and municipal bor. in the co. of Durham, England. It is situated on the Tyne about 6 m. E. of Newcastle. This town possesses some interesting old ruins, among them being those of the monastery founded by Biscop in the 7th century, and where the Venerable Bede spent most of his life. There are also the remains of the church of St. Paul. The to[illegible] chiefly having [illegible] Palmer and Company's shipbuilding works and iron foundries. There are also paper mills and chemical works in J., and coal mines in the vicinity. Pop. (1911) 33,732.

Jarvis, Major Arthur Murray (*b.* 1863), a Canadian general, joined the Canadian North-West Mounted Police in 1880; selected in 1896 to report on the unorganised territories in the Athabasca and Peace R. districts. He established the international boundary-line on the Dalton trail in the Yukon, and built a fort near Chilkat Pass. For services in S. Africa (Cape Colony, Transvaal, Basutoland, and elsewhere) he was made major in the British service in 1900. He was at Sabies Drift in advance of Buller's army. Since 1902 he has been magistrate and commander of outposts of the Canadian North-West Mounted Police on Yukon R.

Jasher (R.V. Jashar), Book of, or **Book of the Upright**, one of the most important of the lost works of the Jews. It is twice quoted in the canonical books of the O.T., and it is noteworthy that each quotation is poetical in form. In Joshua x. 13, the passage telling how Joshua commanded the sun to stand still over Gibeon and the moon over Ajalon is quoted from the B. of J. So also is David's lament over Saul and Jonathan in 2 Sam. i. 18. From these it is deduced that the book in question was a collectio[illegible] than religious ploits of Israe Talmudic authorities have attempted to identify it with one or other of the early canonical books, but with no effect. It is a separate production of the post-Solomonic period, probably containing, however, many poems of earlier date which also occur in Exodus, Judges, Samuel, etc. During the later middle ages three Jewish works appeared, claiming to be the lost B. of J., and in 1751 there appeared an astounding forgery purporting to be a translation of it into English by Alcuin.

Jashpur, a trib. state of the Central Provinces, India. In the bed of the R. Ib, the most important river of the state, are found diamonds and gold. The state also produces iron, silk, lac, and beeswax. The area is 1963 sq. m. Pop. 132,000.

Jasione, a genus of Campanulaceæ, flourishes in Europe and on the borders of the Mediterranean. There are only five known species, and of

these the commonest is *J. montana*, the sheep's-bit.

Jasmin, Jacques (1798 - 1864), known as the 'Barber Poet of Agen,' a Provençal whose real name was Jacques Boé. His first volume of poems, called *Papillotos* (Curl Papers), was published in 1825, containing some verses in French, but mostly in the Provençal 'patois.' These 'patois' poems are generally in the form of short epic narratives, both grave and gay, dealing with familiar scenes of the peasant-life in which he took part, and marked by spontaneity and simple grace of diction. J. is now generally considered the direct forerunner of Mistral, and the *Félibrige*. *Four successive volumes of the Papillotos* were published during his life-time and contained the famous poems 'Charivari'; 'My Recollections'; 'Martha the Simple'; 'The Twin Brothers'; 'The Blind Girl of Castel-Cuillé' (translated into English by Longfellow, and set to music by Coleridge-Taylor, 1901); and 'Françonetto' (translated into English by J. D. Craig in his *Poets and Poetry of the South of France*, 1866). *See* Rabain's *Jasmin, sa Vie et ses Œuvres*, 1867; De Montrond's *Jasmin, Poëte* (2nd ed.), 1876; Andrieu's *Jasmin et son Œuvre*, 1881; Sainte-Beuve's *Portraits Contemporains*; Cardaillac's *Propos Gascons: Jasmin*, 1898; and Marieton's *Jacques Jasmin*, 1898.

Jasmine, or Jessamine, a term applied to the various species of *Jasminum*, a genus of Oleaceæ. There are between one and two hundred of these shrubs, most of which bear sweet-scented flowers followed by a fruit which is vertically divided in two. *J. officinale*, the common J., grows in Europe and Asia. Besides the true J. there are many very different plants to which the name is given. Thus, *Gardenia florida*, a species [illegible] Cape J[illegible] species [illegible] J.; *Plumeria rubra*, a species of Apocynaceæ, is the jasmine-tree; *Calotropis procera*, an asclepiadaceous plant, is the French J.

Jason: 1. In Greek mythology, the leader of the Argonauts, was a son of Æson, King of Iolcus. His half-brother, Pelias, drove him fro[illegible] [illegible] and he was educated [illegible] When J. came to claim his kingdom, he entered the market-place with one sandal, and Pelias, recognising the omen, sent him in search of the golden fleece. J., by the help of Medea, secured the fleece and returned with her in the *Argo*. Medea, pretending to restore youth to Pelias, persuaded his daughters to dismember him and [illegible] J. forsook Medea for Glauce, and Medea in revenge slew the new bride and her own children by J. 2. A tyrant of Pheræ (*fl.* 390 B.C.). He extended his power over the whole of Thessaly, and would probably have become supreme in Greece had he not been assassinated in the height of his power (370 B.C.).

Jason, a name of Greek origin in common use among the Jews. There are several 'Jasons' mentioned in the Apocrypha, and one in the N.T.: 1. *Of Cyrene, a Hellenistic Jew who* probably lived in the second half of the 2nd century B.C., and was the author of a history of the times of the Maccabees down to the victory over Nicanor (175-161). 2. The second son of Simon II. By means of a bribe of 440 talents of silver to Antiochus Epiphanes he managed to usurp the high priesthood of his brother, Onias III. (Antioch II.). Another bribe enabled him to set up a gymnasium in Jerusalem, to enrol the inhabitants of Jerusalem as 'citizens of Antioch,' and to send a contribution to Tyre for the festival of Hercules. He was supplanted by his kinsman, Menelaus, in 172 B.C., and, after a short resumption of power in 170 B.C., fled and died in exile (*see* 2 Macc. iv., v.). 3. The son of Eleazer, sent by Judas to Rome (1 Macc. viii. 17). He is probably the Jason who is mentioned as the father of Antipater (1 Macc. xii. 16). 4. Of Thessalonica, was the host of St. Paul in that city (Acts xvii. 1), and, according to tradition, Bishop of Tarsus. He may be identical with the J. of Romans xvi. 21, Paul's 'kinsman.'

Jasp[illegible] [illegible]rm of silica, con[illegible] tained [illegible] is related t[illegible] dony, and is found in veins and cavities in igneous rocks from which it is derived by decomposition. Through the [illegible] of [illegible] and [illegible] gates of brown, [illegible] of an[illegible] brilliant green translucent form, and the name was evidently applied to forms of [illegible] of Siberia [illegible]een stripes. [illegible]s in brown nodules in the Nile valley and Libyan desert. A rather rare form of the mineral is termed porcelain J., and it is distir[illegible] multipl[illegible] dently *in situ*.

Jassy, Jashi, or Iasi, the cap. of the

dept. of J., Roumania, 5 m. W. of the R. Pruth and the Russian frontier. It was nearly destroyed by fire in 1822, and has been rebuilt on a modern plan. It is the seat of the Greek Orthodox metropolitan of Moldavia and of a Roman Catholic archbishop, and has a university (founded 1864). J. has a large trade in petroleum, salt, metals, timber, cereals, fruit, wine, and cattle. Here was concluded the peace between Turkey and Russia in 1792. A Greek insurrection under Ypsilanti in 1821 led to the storming of the city by the Turks in 1822. From 1564-1859 it was the capital of Moldavia. Pop. 80,000.

Jastrow, a tn. in W. Prussia, 52 m. W.N.W. of Bromberg. The chief industries are spinning and weaving. Pop. 5512.

Jasus, the name of a genus of malacostracan crustaceans belonging to the family Scyllaridæ, sub-family Palinurinæ, and common to the S. hemisphere. They are found on rocky bottoms, and are characterised by a [illegible] and antennæ,

[illegible] Jasz, Hungary, The chief industries are agriculture and horse-breeding. Pop. 11,000.

Jaszbereny, a tn., co. Jasz, Hungary, 40 m. E. of Budapest. It has manufs. of wine and cloth, and a flourishing trade in corn, cattle, and horses. Pop. 26,500.

Jasz-Nagykun-Szolnok, a co. in Hungary, watered by the Tisza (Theiss). The chief town is Szolnok. Area 2074 sq. m. Pop. (county) 349,403.

Jātaka, the name used to designate the legends which recount the 550 incarnations of Buddha. [illegible] are widely disseminated [illegible] India, and occur in vari[illegible] in the folklores of nearly [illegible] countries. See *The Jātaka, with its Commentary* (7 vols., London), 1877-97; *Buddhist Birth Stories*, ed. Fausböll; and Davids' and Cowell's translations.

Jath, India, a native state in the Deccan div. of Bombay. With the small state of Daphlapur, it forms the Bijapur agency, covering an area of 980 sq. m. The principal industries are agriculture and cattle-rearing. Pop. 68,000. The town of Jath has a pop. of 5400.

Jativa (ancient *Sætabis*), a city, prov. of Valencia, Spain. In Roman times it was famous for its linen. It is picturesquely situated on the R. Albaida. Its chief products are fruit, rice, oil, and wine. Pop. 13,000.

Jatropha, a genus of Euphorbiaceæ, occurs in tropical and sub-tropical countries, but is found most frequently in America. There are seventy species in all, several of which yield a valuable oil. *J. podagrica* is a curious species with a thick swollen stem, and is often cultivated in greenhouses.

Jats, a people of N.W. India. They form a considerable portion of the population of the Punjab, Rajputana, and the adjacent districts of the United Provinces. Hindu legends seem to point to a pre-historic occupation of the Indus valley by this people. The J. are mainly agriculturists and cattle breeders. They are very dark in colour, but have regular features. In religion they mostly follow the Sikh or Mohammedan faith.

Jauer, a tn. of Prussian Silesia, 38 m. W. of Breslau. It produces sausages, grain, manufs. machinery, carpets, leather, woollens, and tobacco. There are interesting old churches and a palace of the former princes of J. Pop. 13,556.

Jauja, or **Atanjauja**, a tn. on the river of the same name, in the dept. of Junin, Peru, 115 m. N.E. of Lima. Silver mines occur in the prov. Pop. about 3100.

[illegible] com. in the Mexico, about Victoria. Pop. 10,000.

Jaundice, a symptom of disorders of the system, rather than a disease, and is caused by the presence of the [illegible] e in the blood. [illegible] he conjunctiva [illegible] yellow. The urine becomes very dark, varying from saffron to porter in colour, and the fæces become of a drab or slate-grey hue. Sometimes in addition to this there is extreme itching of the skin. J. may be caused in two ways, [illegible] common being when the [illegible] obstructed, and (2) when [illegible] obstruction. The first is known as hepatogenous, and the second as [illegible] n the first the [illegible] nd in the secon[illegible] The first may [illegible] sence of gall-st[illegible] (*see* CALCU[illegible] of the [illegible]

[illegible] be retained and absorbed in the blood, and so the coloration arises. The second class of J. may be caused by severe men[illegible] and fright, by [illegible] poisons, and b[illegible] pyæmia, typhus fever, and in particular by yellow fever. The cause of this is obscure, but it may be said to be caused by some defect which allows

the bile pigments to continue to circulate in the blood. It may be that the bile is not excreted from the blood because the liver cells become less active, or it may be that the red corpuscles of the blood become so rapidly destroyed that the blood glands cannot get rid of the excessive pigment. In cases of obstruction by gall-stones, catarrhal J., and by pressure of the pregnant uterus or of fæces in the bowel, or congestion of the liver, recovery is comparatively certain. It is more serious when resulting from cirrhosis of the liver and *tumour of the liver; and when it results* from acute diseases or from poisoning, it is a very serious symptom. Cases caused by mental emotions disappear generally quickly, but it may be followed by nervous symptoms and death.

Malignant jaundice.—A rare form of non-obstructive J. which accompanies yellow atrophy of the liver, in which the liver shrinks greatly and the liver cells disintegrate rapidly, resulting in a very speedy death.

Jaunpaur, the cap. of a dist. in the United Provinces, India, and is situated on the R. Gumti. It was originally the capital of a Mohammedan kingdom, and contains mosques, the remains of the fort, and other similar structures. The river here is crossed by a bridge built in the 16th century. Pop. 43,000.

Jauréguiberry, Jean Bernard (1815-87), a French admiral who served with distinction in the Franco-German War. He was born at Bayonne, entered the navy (1831), and subsequently served in the Crimea, and in China. He was Minister of Marine from 1879-80, and from 1882-83.

Jáuregui y Aguilar, Juan de, Chevalier de Calatrava (*c.* 1570 - *c.* 1649), a Spanish poet and painter. He visited Rome (1607), and produced a verse translation of Tasso's *Aminta*. His *Rimas* appeared 1618, the *Discurso* [illegible] Gongorstyle [illegible] specipic. [illegible] *ist. of* [illegible] *des peintres espagnols*; L. de Sedano, *Parnaso español*, i., 1768-78; *Biblioteca de autores españoles*, xlii.

Jaurès, Jean (*b.* 1859), a French statesman and man of letters, born at Castres in the dept. of Tarn. In 1883 he was appointed to the chair of philosophy at the University of Toulouse, but resigned his professorship on his election in 1885 to the Chamber of Deputies. He is a fervent Socialist, and embraced the cause of the employees in the Carmaux strike. In 1893 he became the recognised Socialist leader in the Chamber, and was one of the chief champions of Dreyfus. In 1902 J. became vice-president of the Chamber. His chief work is the *Histoire Socialiste* 1789-1900, published in 1901.

Java, one of the larger islands of the Dutch East Indies in that portion of the Malay Archipelago known as the Sunda Is. Its extreme length is 622 m., breadth 120 m., and it covers an area (with Madura, a small island off the N.E. coast) of 50,554 sq. m. J. is washed on the N. by the Sea of J., on the E. by the Strait of *Bali, on the S. by the Indian Ocean*, and on the W. by Sunda Strait. The coast-line is little developed, and from end to end of the island there is a mountain chain called Gunung Kendang. Alluvial plains extend along the N. coast, and towards the S. Java falls steeply towards the sea. Many of the volcanoes in the mountains are still active. Numerous rivers flow from the N. and S. sides, affording supplies to artificial watercourses, and carrying fertility with them; only two, however, are navigable for large boats. The climate is rather hot and unhealthy on the coast, but salubrious and pleasant in the hills, the more elevated regions being remarkably healthy. The days are, as a rule, hot, but moderated by land and sea breezes; the rainy season lasts from November to March. The range of J.'s vegetation follows that of its temperature and is one of astonishing fertility. The coast is fringed with cocoanut trees, and the ground behind them to the foot of the mountain chain is well cultivated. There are large rice fields and sugar plantations, and cotton, cinnamon, and tobacco are freely grown, and many parts of the coast are fringed with mangrove. Farther inland are found palms, tree-ferns, and screw pines. In the forest region, the trees are richly clad with ferns and enormous fungi, and consist mainly of teak. The most noted Javanese plant is the chettik, or upas, the famed poison-tree. Many of the loftiest trees crown themselves with blossoms, and shrubs and herbaceous plants give brilliant effects at the edge of the forest and the sides of the highways. Rhododendrons, magnolias, myrtles, orchids, pitcher-plants, etc., abound, and it is estimated that the total number of species of Javanese plants is over 5000. J. is not so rich in fauna—tigers, rhinoceros, deer, and wild swine are the chief of the quadrupeds. Several species of crocodiles and serpents are found, and of birds there are only a few conspicuous for their plumage and none distinguished by

their song. Insects cover the ground and plants in countless numbers. The population of J. is almost entirely agricultural, and is distributed over the island in villages, each governed by a native chief of its own choosing. Rice forms the staple food of the natives and is raised in large quantities; coffee and sugar also form staples of the island. Cotton, indigo, nutmegs, pepper, tobacco, tea, cocoa-nuts, and cochineal are likewise cultivated with varying success. The natives consist of the Javanese proper, the Sundanese, and the Madurese, and the population is 30,098,008. The Javanese are small in size, of a yellowish hue, with brown or black eyes, and long, lank, coarse hair. Their lips are thick, and teeth naturally white. They are a sober, patient race, and easily led in most matters. In former times, as regards religion, they were Buddhists and Brahmins, but are now nominally Mohammedans. J. is ruled by a governor-general or viceroy, who has command both of army and navy in all the Dutch provinces of the Indian Archipelago. Batavia is the seat of government, where there is a high court of appeal. The natives are under native tribunals, superintended by Europeans in certain instances; and schools for primary instruction have been established at Batavia and

. *See* Sir Stam-
of Java; E. R.
Garden of the
East; J. Chailley-Bert, *Java et ses habitants;* Worsfold. *A Visit to Java;* P. J. Veth, *Java, Geographisch, Ethnologisch, Historisch* (3 vols.), 1875-78.

Java Sea, sometimes called the Sunda Sea. It is situated between Java and Borneo, and stretches from the W. of Celebes to the E. of Sumatra.

Javea, or Jabea (ancient *Xávea*), a tn., 45 m. N.E. of Alicante, Spain. Its products are wines, lemons, mandarin oranges, and muscatel raisins. Pop. 6600.

Javolenus Priscus, an eminent Roman jurist, born about the beginning of the reign of Vespasian (79 A.D.). His master was Cælius Sabinus, and he became a leader of the Sabinian or Cassian school. Priscus was a member of the council of Antonius Pius. *See* Vit. *Ant.*, xii., and Plin. *Ep.*, vi., 15.

Jawhar, a native state in Konkan div. of Bombay, India. Area 310 sq. m. Principal products, teak and rice. Pop. 48,000. The chief village is J. Pop. 3567.

Jaworow, a tn. of Galicia, Austria. Its chief industries are brewing, distilling, and pottery making. I the famous Italian gardens is t castle which was the residence King John Sobieski, King of Poland. Szkto near by is known for its sulphur springs. Pop. 10,208.

Jaworzno, a tn. of Galicia, Austria, 30 m. W.N.W. of Cracow. There are petroleum wells, coal mines, and zinc-smelting works. Pop. 13,134.

Jay, or *Garrulus glandarius*, a species of the sub-family Garrulinæ and of the crow family (Corvidæ), and is a native of Europe, while other species of the same genus are found in India and other parts of Asia and in Japan. In the New World the blue Js. (*Cyanocitta*) are found in N. America and *Cyanocorax* in Central and S. America, these latter birds being more blue than the common J. In England the common J. has become rare owing to persecution, and this is the case in Scotland and in some parts of Ireland. It is characterised by a crest of black and white feathers, a black tail, and white and black bars on the wing coverts, its body being a brownish colour on the upper surface and lighter underneath. It has also patches of blue. The Js. are sly and retiring in their habits, and have a screeching cry with the power to vary it by mimicking other birds. They feed chiefly on snails, insects, worms, and nuts. They hide their nests in trees with thick foliage and lay about six or seven eggs at a time.

Jay, Harriett, an author and actress, was brought up by Robert Buchanan, the Scottish poet and writer, who married her elder sister. She collaborated with Buchanan in several of his works, *e.g. The Shop-walker* and *Two Little Maids from School*, and published independently: *The Queen of Connaught*, 1875; *Madge Dunraven*, 1879; *Two Men and a Maid*, 1881; and *A Marriage of Convenience*, 1885. As an actress she has has also won great distinction.

Jay, John (1745-1829), an American politician and man of law, born at New York. He was called to the bar in 1768. In 1774 he was elected to the first Continental Congress and to the second in 1775. He drew up the constitution of New York State in 1777, and was appointed judge. He became president of the Congress in 1778, and was appointed minister to Spain in 1779. In 1789 he was made chief justice of the Supreme Court. In 1794 he drew up a treaty, called the Jay Treaty, whereby the inland trade between the United States and British N. America was properly organised in the interests of both countries. J. became governor of New York in 1795. He was a very able

the field of
Lives have
Jay (1833).
Pellew (1890).

Jay, William, D.D. (1769-1853), a very born Early Cornelius Winter provided for him to be educated as a minister. His devotional writings had a vast circulation in England and America.

Jay, a celebrated born in New York. He became a judge in 1818. He founded the American Bible Society (1815), but the greater part of his energies were devoted to anti-slavery interests. The Anti-Slavery Society had in J. one of its most fervent and eloquent members. In 1833 he published the *Life and Writings of John Jay*.

Jayadeva, a Hindu poet, best known as the author of the mystic poem, *Gitagovinda*. His date is disputed, Lassen believes he flourished in the 12th century. He is considered the finest lyric poet of India. English versions by Sir William Jones and Sir Edwin Arnold.

Jazyges, a Sarmatian tribe, who lived N. of the Sea of Azov. In the 1st century A.D. some of them settled in Hungary, others N. of the Carpathians.

Jeaffreson, John Cordy (1831-1901), a British author, born at Framlingham in Suffolk. *His chief works are: Olive Blake's Good Work*, 1862; *Live it Down*, 1863; and *Not Dead Yet*, 1864, novels with striking descriptive passages and subtle delineation of character. *About Doctors*, 1860; *About Lawyers*, 1867; *About the Clergy*, 1870; and *Brides and Bridals*, 1872, humorous work by fresh insight and *The Real Lord Byron*, *Shelley*, 1885; and *Lady Hamilton and Lord Nelson*, biographies which are perhaps representative of his best work. He also published an interesting *Book of Recollections* in 1894.

Jeanne d'Albret (1528-72), Queen of Navarre, the daughter of Henry, King of Navarre, Duke of Albret and peer of France, and Margaret, sister of the French king, Francis I. She married Anthony de Bourbon, Duke of Vendôme, and their son Henry became Henry IV., King of France.

Jeanne d'Arc, *see* JOAN OF ARC.

Jeannette, a bor. of Westmoreland co., Pennsylvania, U.S.A., 23 m.

Ocean.

Jebail, or **Jebeil** (? ancient *Byblos*), a tn. on the coast of Syria, near Mt. Lebanon and 18 m. N.N.E. of Beirut. It has old walls, a fine citadel, and other ancient buildings. Pop. 3000.

Jebb, Sir Richard Claverhouse (1841-1905), a classical scholar and writer, born at Dundee. He was senior classic at Cambridge in 1862. In 1875 he was made professor of Greek at Glasgow University, and in 1889 was essor of Greek chief promoter giate classical and helped to organise the Cambridge Philological Society. He was also one of the founders of the famous British School of Archæology at Athens. In 1891 he became Unionist M.P. for Cambridge University. J. brought out some of the finest editions of the Greek classics. His finest works are perhaps his edition of and commentary on *The Attic Orators*, and his edition of the works of Sophocles with translation and commentary in seven volumes. His other works include: *The Characters of Theophrastus*, 1870; *A Primer of Greek Literature*, 1877; oduction to d Influence and *Bacchylides*, 1905.

Jebel, or **Gebel,** an Arabic word meaning a mountain, used in compounds to form place names.

Jebel-Nur, *a mountain, near Mecca,* Arabia. The Moslems believe that here Mohammed received the Koran from the angel Gabriel.

Jebel Shammar, Shummer, or **Shomer,** a dist. of Central Arabia in the N. of Nejd. It contains two granite ridges traversing it from E. , one of which is about 6000 ft. The capital is Hail. Pop. 150,000.

Jedburgh, a royal burgh and the co. tn. of Roxburghshire, Scotland, situated on Jed Water, 56 m. by name now The ne of the Border wars. The abbey, which dates from the 12th century, is the remains of the church, attached to an Augustinian priory, founded by David I. and laid low by the English during the first half of the 16th century. The old castle was destroyed in 1409, and in its place now stand the remains of a prison. This town is also associated with Mary Queen of Scots, Prince Charles Edward, Burns, and others. It is the chief seat of the woollen manufacture in the district, and there are also iron foundries here. Pop. (burgh) 2752.

Jedda, Jeddah, or **Jiddah,** a seaport of Hedjaz, Arabia, situated on the Red Sea, between 50 and 60 m. W. by N. of Mecca, of which tn. it is the port.

Consequently the pilgrims bound for that city disembark here, a great number visiting it annually. It exports hides, mother-of-pearl, coffee, and carpets. Pop. 30,000.

Jedo, or Jeddo, *see* TOKYO.

Jeejeebhoy, Sir Jamsetjee, Bart. (1783-1859), an Indian merchant and philanthropist, born at Bombay. His parents were poor, and J. had a severe struggle to win eminence. He was the first to open commercial relations with China on systematic lines, and the greater part of his riches was accumulated by the trade he carried on with that country. His philanthropy was extended in all directions and to all sects. He gave hospitals, schools, colleges, and public works. In 1842 Queen Victoria bestowed knighthood on him, and in 1858 a baronetcy. The successors to the title have continued the great philanthropic tradition.

Jefferies, John Richard (1848-87), born at Coute Farm, near Swindon, in the co. of Wiltshire. He went to school at Sydenham, then at Swindon until about fifteen, but his greatest teacher was his father, who made him acquainted with all the wonders of nature and taught him to make use of his faculties of observation. He became a journalist and was appointed editor of the *North Wilts Herald* during the years 1866-67. His letter on 'The Wiltshire Labourer' in the *Times* (1872) brought him into public notice, and from now onwards his success was assured. Amongst his works may be mentioned: *The Gamekeeper at Home*, 1878; *The Story of My Heart*, 1883; *Life of the Fields*, 1884; and *The Open Air*, 1885. His works contain many sublime and beautiful thoughts and betray an intimate knowledge of nature. *Field and Hedgerow* was published after his death. See *Life* by Ed. Thomas.

Jefferson, Joseph (1829-1905), a famous American comedian, born at Philadelphia. His first notable appearance on the stage was as Asa Trenchard in *Our American Cousin*, 1858. His most famous impersonation was in the rôle of *Rip van Winkle*, which was a great success in America and in London. His other famous parts were as Bob Acres in *The Rivals* and as Caleb Plummer in *The Cricket on the Hearth*. He has left an *Autobiography*, 1889.

Jefferson, Thomas (1743-1826) president of the U.S.A., born at Shadwell, Virginia. He was called to the bar in 1767 and practised for seven years. In 1773 in the Virginia Assembly J. was one of the chief promoters in organising the Standing Committee of Correspondence and Inquiry, the object of which was to procure early intelligence of the proceedings of the British parliament. In 1775 he was delegated from Virginia to the general Congress and drew up the greater part of the Declaration of Independence. He was governor of Virginia in 1779 and 1780-81, and took an active part against the incursions of Lord Cornwallis. In 1784 he was appointed Congress minister to France. In 1797 he was elected vice-president, and president in 1801, an office which he again held in 1805. Through J.'s policy the States acquired Louisiana from the French for 15,000,000 dollars and the free navigation of the Mississippi. J. believed in the supremacy of the individual states and fervently opposed Adam's federal policy. In his last years of retirement he founded Virginia University.

Jefferson City, the cap. of Cole co. and of the state of Missouri, situated about 110 m. W. of St. Louis. It contains the state house, court house, and several other institutions. Pop. (1910) 11,850.

Jefferson River, a river of the U.S.A. It rises in S.W. Montana and finally joins the Madison and Gallatin Rivers, the three streams forming the Missouri. It is about 150 m. long.

Jeffersonville, a city of Indiana, U.S.A., co. seat of Clark co. It stands on the Ohio, opposite Louisville, Kentucky. The city possesses railway works, machine shops and iron foundries, and also makes boats. Pop. (1910) 10,412.

Jeffrey, Francis Jeffrey, Lord (1773-1850), a Scottish judge and critic, educated at Edinburgh, Glasgow, and Oxford. Though son of a staunch Tory, as he grew up he joined the Whigs, which seriously affected his prospects when he was admitted to the Scottish bar (1794). Meeting for years with little success, either as lawyer or journalist, his opportunity came in 1802, with the founding of the *Edinburgh Review*. Sydney Smith was first editor, but when he removed to London in 1803 J. was placed in charge. Retaining control for twenty-six years he raised the *Edinburgh* to the very highest rank. At first it was non-partisan, Scott and other Tories contributing, but in 1808 a strong anti-government article by J. on the Spanish War caused Sir Walter's party to secede and establish a rival review, the *Quarterly*. The secrets of the *Edinburgh's* success were its independence and high literary qualities. Many articles were written by J. himself, while the most brilliant of Liberal writers were also contributors. In 1806 J. went to London, where he had his famous duel with Moore, so satirised by Byron. Still continuing to practise as an advocate, he rose to

a high position at the bar, and in 1829 resigned his editorship. In 1830 he was made Lord Advocate, and entered parliament, where, however, his career was not brilliant, though he was hard-working and greatly respected. In 1834 he accepted a judgeship and a peerage, thenceforward confining himself entirely to his duties on the bench, and the enjoyment of social life.

Jeffreys of Wem, George Jeffreys, Lord (1648-89), a Lord High Chancellor of England, born at Acton, Denbighshire. In 1668 he was called to the bar, and in 1680 became chief justice of Chester. J. prosecuted Lord William Russell for his part in the Whig Conspiracy, and infamously suborned a partial jury in violation of the law to condemn Algernon Sidney for high treason on the evidence of one witness only—the unprincipled Lord Howard. But J.'s culminating action of cruelty was the Bloody Assize (1685), whereby over 300 victims were drawn and quartered, and a thousand sent as slaves to the W. Indian plantations. In opposition to the Long Parliament the Court of High Commission was revived, and J. placed at its head (1686). In 1688 J. was the king's chief instrument in securing the committal to the Tower of the seven bishops. But the fall of James II. drew in its train the fall of J.; he fled, was arrested, and died miserably in the Tower.

Jehangir, or Salim Nureddin Mohammed (1569-1627), became King of Delhi and Agra in 1605, succeeding his father Akbar. Previously to his accession to the throne he had rebelled against his father and had attempted to seize Agra. J. was of an amicable and jovial disposition, but he was hopelessly addicted to high living, gaming, and other forms of self-indulgence. Utterly unfit to control the affairs of state, he left his kingdom to the control of his more energetic queen, Nurmahal. The most important events of his reign were the wars in the Deccan and Udaipur, and the loss of Kandahar. During the last decade of his reign, his captains rose in insurrection, and his sons entered in a conspiracy against him. J. has left a volume of memoirs entitled *Jehangiri*, full of delightful self-revelations, and side-lights on court life in India. Captain Hawkes visited the king at Delhi, and has also left an entertaining volume of memoirs descriptive of this reckless ruler.

Jehlam, *see* JHELUM.

Jehoiachin, called **Jeconiah**, King of Judah, succeeded his father, Jehoiakim, in 597 B.C. He only reigned for three months, being dethroned by Nebuchadnezzar and carried into captivity at Babylon. But in the thirty-seventh year of his captivity, Evil-merodach, King of Babylon, released him, and granted him an allowance for the rest of his life (*see* 2 Kings xxiv. 6-16; xxv. 27).

Jehoiada, a high priest of Judah, during the reigns of Ahaziah, Athaliah, and Joash. When Athaliah, the mother of Ahaziah, sought to destroy all the seed royal, J. protected Joash, the young son of Ahaziah, in the temple, and subsequently anointed him king while the guard slew Athaliah, the usurping queen, at his instructions. J. then destroyed the house of Baal, instituted a public fund for the repair of the temple, and executed the work of restoration (*see* 2 Kings xi. and xii. and 2 Chron. xxiii., xxiv.).

Jehoiakim, or **Eliakim**, King of Judah (608-597 B.C.), son of King Josiah and Zebudah, the daughter of Pedaiah, received the throne as a vassal of Pharaoh-nechoh. But Nebuchadnezzar, King of Babylon, sacked Jerusalem, and J. became his vassal for three years (*c.* 605-602 B.C.). His revolt from allegiance to Babylon roused an attack on Jerusalem by the Chaldees and Syrians. Jerusalem was sacked and the king slain (*see* 2 Kings xxiii. 34 ff., xxiv. 1-5; 2 Chron. xxxvi. 4-8).

Jehoshaphat (*c.* 876-851 B.C.), King of Judah, succeeded his father Asa, and commenced his reign as an able and wise ruler, rooting out idolatry, and building strongholds throughout the land. But the prosperity of his reign was reversed when he sought affinity with Ahab, King of Israel. Ahab, seduced by false prophets and in opposition to the warning of Micaiah, set forth on an expedition against Ramoth-gilead, and persuaded J. to join him. Ahab succumbed to a wound received in the battle, and J. only escaped with his life. J. returned to Jerusalem and reformed the judges and priests, and carried out a successful campaign against Moab and Ammon. But ruin awaited a mercantile expedition to Tarshish sent by J. in conjunction with Ahaziah, King of Israel (*see* 1 Kings xv. 24; 2 Kings iii.; 2 Chron. xvii.-xx.).

Jehoshaphat, Valley of, mentioned in Joel iii. 2 as the place where the Lord shall pronounce His judgments against the enemies of His people. The valley has been identified with the valley of Berachah where Jehoshaphat triumphed over Ammon and Moab (2 Chron. xx. 26), but the probable site of the valley is the gorge situated between the Mount of Olives and the Mount of the Temple.

Jehovah, the principal name for God in the O.T., appearing nearly 7000 times. It is now felt that there is no authority for such a pronunciation, which is founded on a misapprehension. The original word, known as the Tetragrammaton, consists of the letters JHVH, or better, YHWH. This name came to be considered too ineffable to pronounce, and hence the vowels of the word *Adonai* (lord) were inserted, as a direction to the reader to replace it by this word. Thus we have the form YeHoWaH, or JeHoVaH—short *e* taking the place of short *a*. If the Tetragrammaton is preceded by the word Adonai, the vowels of *Elohim* (God) are inserted, giving the form YeHoWiH. There has been much controversy both as to the original form of the word, and also as to its origin and meaning. The first is now probably finished, there being general agreement in the acceptance of Ewald's suggestion that the true form is Yahweh. The forms Yahu and Yah also occur, both separately and as a component part in proper names. The question as to the origin of the title is more difficult. Exodus iii. 13 and vi. 3 imply that it was first revealed to Moses, but it has already been used earlier (*e.g.* Gen. iv. 26). The use of the name, indeed, formed the chief means by which the composite authorship of Genesis was discovered (*see* HEXATEUCH). Some have held that it was borrowed from the Kenites who inhabited the region around Sinai, and that the Mosaic revelation was only one of meaning and application. The meaning is given in Exodus iii. 14, by God himself, as 'I am that I am,' and later simply 'I am,' and according to this interpretation which is generally accepted the word is the third person singular imperfect of the archaic stem HWH (to be). Many scholars, however, have regarded the idea as too abstract for so early a period, and have sought for a more concrete explanation.

Jehu, son of Jehoshaphat, and grandson of Nimri, was King of Israel during the latter part of the 9th century B.C. He was general under Jehoram, and during the illness of that prince at Jezreel he seized the throne, and proceeded to secure it by

[illegible]

Elisha seems to have supported him as a useful substitute for Jeho from whom little action could been expected. J. is mentioned tablet of Shalmaneser II. (842 B.C.) as paying tribute to Assyria.

Jeisk, or **Yeisk**, a tn., prov. of Kuban, Caucasia, Russia, on the coast of the Sea of Azov. Its exports include corn, flax, and wool. Pop. 46,308.

Jejunum, meaning empty, one of the three arbitrary divisions of the small intestine (*q.v.*). It is about 1¼ in. wide, and 8 ft. long, and is the connecting portion lying between the duodenum and the ileum. There are not distinct lines of demarcation between these three parts, but there are certain peculiarities of internal structure to be observed in comparing the upper and lower ends of the entire tube. The convolutions of the J. occupy part of the umbilical and left lumber and iliac regions of the abdomen. In general, its structure resembles that of the duodenum, its mucous membrane is marked by *valvulæ conniventes* and *villi*, *crypts of Lieberkühn* occur, but *Brunner glands* are absent, except possibly in very small numbers at the duodenal end of the J.

Jelalabad, *see* JALALABAD.

Jelal-ud-din, or **Rumi**, a famous Sufic poet of Persia, born at Balkh in Khorasan. In memory of his son Ala-uddin, and his instructor Sufi Shams-uddin, both killed in a mob riot, he founded the order of Maulawi dervishes. This order is characterised by the mystic dance (Samâ), symbolical of the movement of the spheres and of the soul. His most famous works are his odes mainly composed in honour of the Maulawi dervishes, and his great poem the *Mathnawi*.

Jelatma (Russia), *see* YELATMA.

Jeletz, *see* ELETS.

Jelf, Richard William (1798-1871), an English theologian, born at Oaklands, Gloucestershire, brother of W. E. Jelf, was appointed tutor to Prince George of Cumberland in 1826. In 1844 he became principal of King's College, London, and was appointed Bampton lecturer at Oxford. The subject of his addresses was 'An Inquiry into the Means of Grace.'

Jelf, William Edward (1811-75), a British theologian, born at Oaklands, Gloucestershire, brother of R. W. [illegible] at Oxford [illegible] The Christ[illegible]s at Carle[illegible] Caerdeon in [illegible] 1842 he published a Greek [illegible] which, for many years, [illegible]d its position as the stan[illegible]-book.

[illegible] (1801-[illegible] minis[illegible] He Croatians, and was appointed Ban of Croatia (1848). He took an active part in the Hungarian rising (1848-49),

and commanded his troops against Montenegro (1853). He wrote and published poems.

Jelly, the solid state of matter produced by the addition to a liquid of some colloid substance, *e.g.*, gelatine. A distinguishing feature of J. is its elasticity. Js. are much used as an article of food, and are eaten as sweets or savouries. The best J. is made from calves' feet, and is very strengthening. Ox-foot J. is also an excellent dish for invalids. Gelatine is much used in the manufacture of sweetmeats, *e.g.* in gums and pastilles. Of vegetable Js. agar-agar is well known, and is useful as a media in bacteriology. Of the morganic J. that produced from a solution of silicic acid is best known.

Jelly-fish, bell-shaped or disc-shaped marine hydrozoa, embracing Medusæ, Ctenophora, and Siphonophora. In the Medusæ the body is shaped like a bell or a parachute. The body is bordered by a fringe of writhing tentacles, supposed to resemble the snake-locks of the gorgon Medusa—hence the name. The animal normally swims with its subumbral surface downwards. The distinguishing feature of the J. is the misogloe, a diaphanous and gelatinous secretion layer, situated between the *ectoderm and the endoderm, and* developed in great quantity. On the subumbral surface is the mouth, bordered by four lips which bear stinging threads. The mouth leads into the stomach. From the stomach the radial canals lead to the edge of the umbrella; these are blue, and in the *Aurelia aurita* are sixteen in number, eight being simple, and eight branched. These meet a ring canal which runs round the edge of the umbrella. The nervous system follows a ringed course round the umbrella. In the typical Aurelia, the sex organs are seen hanging from the subumbral cavity in four fans. The muscular system is arranged in a circular formation on the under surface of the umbrella. The muscles contract and the water is thereby pumped from the subumbrella, and the animal is jerked upward. This is the only means of locomotion. Medusæ seize their prey by their tentacles; the victim becomes paralysed and is drawn into the mouth. Medusæ are either male or female; hermaphrodites are found, but are rare. Medusæ are sometimes reproduced by budding, but when reproduced by the sexual method, the fertilised egg develops a free-swimming larva which, as in the case of the aurelia, becomes fixed, budding tentacles at one end and developing a hydra-tuba at the other. The *hydra tuba* suffers transverse fission, and ultimately *ephyra* are freed and develop into J. The *Ctenophoræ* are a species of J. which have both radial and bilateral symmetry. They are bell-shaped, the mouth being situated at the broader end. They have eight meridians of iridescent paddles. Locomotion is effected by strokes of the paddle.

Jemappes, a tn., prov. Hainaut, Belgium. Here the French under Dumouriez defeated the Austrians, and became masters of Belgium (1792). There are rich coal mines, glass and chemical works. Pop. 14,000.

Jemeppe, a tn., prov. Liège, Belgium, 5 m. S.W. of the tn. of Liège; has iron works and coal mines. Pop. 11,600.

Jena, a tn. in the grand duchy of Saxe-Weimar in Germany. It is situated on the l. b. of the Saale, about 12 m. S.E. of Weimar, and is surrounded by limestone hills. It is an old town, and contains among its buildings of interest the Fuchs Turm; the Black Bear Inn, the place visited by Luther when fleeing from Wartburg, and most noted of all, the university buildings founded in 1558; Schiller, Fichte, and Schlegel, being among its professors. J. is also remembered as the scene of the battle between the French and Prussians in 1806—*the latter suffering a* total defeat. Pop. 38,487.

Jenghiz Khan (1162-1227), a Mogul conqueror and emperor, son of a petty Tartar chief. By skill and ruthless daring he gradually subdued all Mongolia, changing his original name of Temuchin to Jenghiz (perfect warrior). In 1212-14 he conquered Northern China. Four years later an insult offered to his envoys in Turkestan led to his invading that country with an immense host. In the first battle the Turkomans lost 160,000 men, and for seven years the war raged with terrible cruelty, many cities being totally destroyed and their inhabitants massacred. J. swept through Afghanistan into the Punjab, which he devastated, returning afterwards to Turkestan. Another Mogul army penetrated into Russia as far as the Dnieper, carrying off immense spoils. In 1225 J. again attacked China, capturing cities and provinces with frightful carnage, but died in returning from the campaign. It is said that he once purposed exterminating the Chinese and turning their country into prairie, but was dissuaded by one of his counsellors.. His wars are computed to have cost six million lives; their greatest result was the driving into Asia Minor of various Turkoman tribes, who afterwards founded the Ottoman empire and invaded Europe. The empire founded

by J. soon broke up, much of it falling to Kublai Khan.

Jenkin, Henry Charles Fleeming (1833-85), an English engineer. In 1859 he with Lord Kelvin made experiments in the manufacture and use of cables. His researches on gutta-percha were of the utmost value. He was elected F.R.S., and was appointed professor of engineering at University College, London, in 1865, and at Edinburgh University in 1868. He published a valuable text-book on *Magnetism and Electricity*. He invented 'telpherage,' an electric automatic system for transporting goods. *See* R. L. Stevenson's Essays, *Talk and Talkers* ('Jenkin is Cockshot').

Jenkins, Robert, an English merchant sea-captain of the W. Indies. He appeared before the House of Commons with one of his ears in cotton, alleging that the Spaniards had boarded his vessel, accused him of smuggling, and cut off his ear. This provoked war between England and Spain, and led to Walpole's downfall (1742).

Jenkinson, Anthony (*d.* 1611), an English merchant and sea-captain. He visited Asia Minor and N. Africa (1546), and in 1557 was appointed agent of the Muscovy Company. He travelled to Bokhara (1558-59), and was commissioned to trade with Persia. By his efforts his company obtained the monopoly of the White Sea trade. See *Early Voyages and Travels in Russia and Persia* (Hakluyt Soc., 1886), and biographical introduction by E. D. Morgan.

Jenkinson, Robert Banks, second Earl of Liverpool (1770-1828), statesman, entered parliament in 1790, and after holding minor offices became Foreign Secretary under Addington from 1801 to 1803, in which latter year he went to the Upper House as Baron Hawkesbury. He was Home Secretary and leader of the House of Lords, 1804-6, and again in 1807-9. He had succeeded to the earldom in the previous year. He went to the War Office in 1809 under Perceval, and on the death of that Prime Minister formed a ministry, of which he remained the chief for fifteen years. It was, therefore, under his supreme direction that the last years of the war with France were carried on, and the arrangements for the imprisonment of Napoleon arranged. He held office at a time when questions of domestic policy of great importance came up for settlement. The matter of Catholic emancipation was pressing, but to increasing the privileges of the Roman Catholics he was opposed. There was great distress in the country, which was on the eve of the great reform campaign, and with this he grappled to the best of his ability, and was prepared to reduce the duty on corn. A man of sound qualities, he lacked brilliance, but he had many of the qualifications of a sane unambitious leader. There is a biography by C. D. Yonge (1868).

Jenks, Edward (*b.* 1861), an English barrister and author. Principal and director of legal studies of the Law Society. At one time he edited the *Independent Review*. He lectured at Cambridge ([illegible] 96), Oxford [illegible] examiner in [illegible] for the Civil Service Commission. Among his publications are: *The Doctrine of Consideration in English Law*, 1893; *The Government of Victoria, Australia*, 1893; *Law and Politics in the Middle Ages*, 1897; *Modern Land Law*, 1899; *Parliamentary England*, 1903; *Husband and Wife in the Law*, 1909.

Jenné, a tn., an important centre of commerce in Upper Senegal (French), on the R. Niger, 250 m. S.S.W. of Timbuktu. Once the capital of the Songhoi empire

Jenner, Edward (1749-1823), an English physician and discoverer of vaccination, born at Berkeley, Gloucestershire. Left an orphan at six years old he was brought up by his eldest brother, the Rev. Stephen J., and educated for the medical profession. In 1770 he became a pupil of the famous John Hunter, with whom he remained two years. Declining offers of advancement in London, he returned to establish a practice in Berkeley, wishing to be near his brother. He took great interest in the natural history of his district, founded a local medical association, and was a general favourite in society. In 1788 he married Miss Kingscote. Being much interested in a popular Gloucestershire belief that persons who contracted cow-pox were thenceforward immune from small-pox, he began a series of researches, and in 1796 proved that the theory was correct. Attempting in 1798 to introduce a system of vaccination in London, he met with great opposition, but nevertheless secured a hearing from many influential persons, including the royal family. Vaccination spread through England and other countries with such results that in 1802 parliament voted J. a grant of £10,000 (raised a few years later to £20,000), and on the Continent he was elected a member of most of the great scientific societies. At home, however, the jealousy of his professional colleagues led to much bickering and irritation; he was worn with incessant work, and the death of his

wife in 1815 affected him greatly. He retired from public life, but continued his investigations until struck down by apoplexy.

Jenner, Sir William, Bart. (1815-98), an English physician, born at Chatham, educated at University College, London. In 1844 he became M.D., and in 1847 began a course of investigation by which he eventually proved the distinction between typhus and typhoid. He became professor of medicine at University College, physician to several great hospitals, and medical adviser to the royal family, attending the Prince of Wales in his attack of typhoid. Receiving a baronetcy in 1868, he was in 1881 elected president of the College of Physicians. Rather autocratic in manner, but kind and considerate, he was in such request as a consultant that he left a fortune of £300,000. His writings include important works on fever and diphtheria, beside occasional papers.

Jennings, Sir John (1664-1743), an English admiral, son of Philip J. of Shropshire. He accompanied various distinguished admirals of the late 17th and early 18th centuries on their expeditions off Spain and in the Mediterranean Sea. He took part in the capture of Gibraltar (1704) and became admiral in 1708.

Jennings, Louis John (1836-93), an Anglo-American journalist, born in London, England. He joined the staff of the *Times* (London, 1860), and was sent out as special correspondent to India (1863). In 1865 he was transferred to New York. Later he became editor of the *New York Times*, in which he boldly exposed the practices of the corruption of the Tammany Ring. In 1876 he returned to England, and was conservative M.P. for Stockport (1885-86). He wrote *Eighty Years of a Republican Government in the United States*, 1868; *Gladstone, A Study*, 1887; and edited the *Croker Papers*, 1884, and *Lord Randolph Churchill's Speeches*, 1889.

Jennings, Sir Patrick Alfred (1831-97), Premier of New South Wales, born at Newry, Ireland. He began life in a merchant's office, but soon emigrated to the Victoria gold fields (1852), and eventually acquired pastoral property in New South Wales (1863). He was member of the Legislative Council, 1867; Colonial Treasurer, 1885; Colonial Treasurer and Premier, 1886-87. He represented New South Wales at the Colonial Conference in London, 1887.

Jennings, Sarah (1660-1744), *see* MARLBOROUGH.

Jenolan Caves, or Fish River Caves, beautiful stalactite caves situated on the W. side of the Blue Mts., 113 m. W. of Sydney, New South Wales.

Jensen, Adolf (1837-79), a composer, born at Königsberg; taught in Russia (1856), and later in Berlin (1866-68), after having studied with Niels Gade (1858-60). His works were prolific, consisting chiefly of short lyrical songs and pianoforte solos in the Schumann style, frequently of great beauty, but somewhat superficial in sentiment.

Jensen, Peter (*b.* 1861), one of the greatest authorities of the day on Assyriology. J. was born at Bordeaux, studied Hittite and Semitic archæology, subsequently became professor of Semitic philology at Marburg University (1892). His works are: *Hittiter und Armenier*, 1898; *Assyrischbabylonische Mythen*, 1900-1; section 'Hittites' in Hilprecht's *Explorations in Bible Lands*, 1903; and *Das Gilgamesch-Epos in der Weltlitteratur*.

Jenys, Soame (1704-87), a writer and politician, born in London, and educated at St. John's College, Cambridge. He was a lord of trade under several governments, and M.P. for Cambridgeshire, Dunwich, and Cambridge successively. His writings are on abstruse problems, one of which, *A Free Inquiry into the Nature and Origin of Evil*, Dr. Johnson ridiculed in the *Literary Magazine*. In later years he endeavoured to counteract the mischievous anti-religious tendencies of his previous work.

Jephthah, according to the narrative in Judges x. 6 ff., was an illegitimate son of Gilead, after whose death he was driven out by his brethren. He became the leader of a band of freebooters, until he was recalled by the elders of Gilead to lead them against the Ammonites. This he refused to do unless he was afterwards made their judge, and this position was promised to him. He collected a large army and made a vow that if he was successful he would offer as a burnt-offering to Jehovah the first thing that came forth from his doors on his return. This vow led to the sacrifice of his daughter, which some have tried to soften into a dedication of her to perpetual virginity. J.'s later exploits were against the Ephraimites. It has been suggested that two persons, Jair and J., are confused in this account.

Jerablus, *see* CARCHEMISH.

Jerâsh, *see* GERASA.

Jerba, or Girba (ancient *Meninx*), an island of Tunis in the Gulf of Cabes, off Africa, has an area of 425 sq. m. It is separated from the mainland by a fordable channel formerly crossed by a Roman viaduct. There are many Roman remains, including a triumphal arch and two

castles. It is very fertile, olives, dates, and oranges grow there. The inhabitants are occupied in sponge fishing and in manufacturing woollen fabrics. The chief town is Haumt-es-Suk. Pop. of town about 3000; of island, 40,000.

Jerboa, the name popularly given to members of the Dipodidæ, a family of myomorphous rodents remarkable for their powers of leaping. They are terrestrial animals, inhabiting the sandy or grassy plains in Asia, E. Europe, and N. Africa. *Dipus*, the typical genus, is from 6 to 8 in. in length, with a long tail and naked ears; the fore-limbs are very short and have five fingers, while the curiously elongated hind limbs have only three toes. It is by means of these enormous legs that they are able to leap when in danger, but when undisturbed they walk on them in an ordinary way. The Js. are also bur[illegible] eir strong inci[illegible] eir habits are [illegible] on roots, seeds, insects, birds' eggs, etc., and occasionally [illegible] crops. The [illegible] the Arabs. [illegible] species; *Alactaga* is common on the Siberian steppes, *A. jaculus* being known as the jumping rabbit; *Platycercomys* is distinguished by a flattened, lancet-shaped tail; *Zapus* is the so-called jumping-mouse of the U.S.A., and the genus *Sminthus*, whose legs are short and nearly equal, may be regarded as approaching most nearly to the ancestral form.

Jerdan, William (1782–1869), a journalist, wrote for many papers, and was editor of the scandalous *Satirist*, of the *Sun*, and later of the *Literary Gazette* (1817-50). He was a founder of the Royal Society of Literature (1821) and of the Royal Geographical Society (1830). He published an *Autobiography* in 1852, and fourteen years later an interesting book of reminiscences, *Men I have Known*.

Jeremiah, called also Jeremias and Jeremy, one of the greatest of the Hebrew prophets, is described in the first verse of the book which bears his name as the son of Hilkiah, whom some have identified with the Hilkiah mentioned in 2 Kings xxii. He belonged to a priestly family of Anathoth, which he later quitted for Jerusalem. The vision by which he was inspired to take up the prophetic work is given in the first chapter. This took place in the thirteenth year of the reign of King Josiah (*c.* 627 B.C.) Five years later occurred the famous discovery of the Book of the Law by Josiah, which led to that prince's great attempt at reform. In this J. does not figure at all, though there is no reason to suppose but that he was in full sympathy with it. But it was not long before the prophet began to feel that no great or deep reformation could be carried out by the secular arm, and it was this that led him to take up the individualistic attitude which marks him off from the other prophets. His prophecies were spread over the reigns of Jehoahaz, Jehoiakim, Jeconiah, Zedekiah, and part of the period of exile. The Book of J., which is interspersed with accounts of historical incidents relating to general events and the life of J. himself added by a later hand, is tender and sad throughout. The prophet insists that the spiritual well-being of the chosen people is not bound up with their prosperity as a nation, and that only through defeat and oppression can the remnant be saved. He insists on the necessity of a spiritual religion and warns the leaders that the possession of the temple of the Lord God will not secure them from defeat. He insists that the work of the Chaldæan will be accomplished not by succouring but by oppressing Israel. On account of the pessimism and, as was thought, lack of patriotism shown in his prophecies, J. was extremely [illegible] submit to much [illegible] which he had prepared with the aid of his friend Baruch, was cut to pieces and burnt, and he himself had to submit to frequent imprisonment under the most revolting conditions. After the capture of the city he received permission to dwell where he wished, and so attached himself to Gedaliah, the Babylonian governor. On the death of Gedaliah, he retired to Egypt, where tradition says that he met his death by stoning at the city of Tahpanes. See expositions by Ewald, Graf, Cheyne, Ball, etc.

Jérémie, a [illegible] the island and [illegible] m. W. of Port-[illegible]tant trade in cocoa, coffee, and logwood. The father of Alexandre Dumas, the French novelist, was born here. Pop. 7000.

Jeremie, Sir John (1795-1841), a colonial judge, born in Guernsey. He practised for some years as an advocate in his native town, and from 1824-30 was chief justice of the island of St. Lucia. In 1831 he published *Four Essays on Colonial Slavery*, which work was severely attacked by the upholders of slavery, who refused to receive him when he was appointed procureur-general of the island of Mauritius in 1832. In 1836 he went to Ceylon as judge, and in 1840 was made governor of Sierra

Leone and knighted, publishing the same year a *Letter on Negro Emancipation*.

Jeréz de la Frontera (formerly Xeres), a tn. of Southern Spain in the prov. of Cadiz, situated on a vine-covered plain 12 m. N.N.E. of Cadiz. The town is an important market for grain, fruit, and livestock, but is chiefly famous for its vines from which sherry is manufactured. Indeed, the wine lodges are a characteristic feature of J., but there are other buildings of note, the 15th century Church of San Miguel, a town hall dating back to the 17th century, etc. Under the walls of J. the battle of Guadalete, which delivered Spain into the hands of the Moors, was fought in 711, and parts of the old walls still remain. The town was taken from the Moors by Alfonso X. in 1265. Pop. 62,628.

Jerez de los Caballeros, a tn. of Estremadura, 40 m. S.E. of Badajoz, Spain, is the centre of an agricultural district, producing grain, fruit, vegetables, and cork. The main wealth of the people consists of herds of swine and mules. Pop. 10,500.

Jerfalcon, Gyrfalcon, or *Falco gyrfalco*, the name of a species of falcon (*q.v.*) belonging to the Falconidæ; it is found in W. Russia, Scandinavia, Greenland, and Arctic America, and its colour varies from grey to white.

Jerichau, Anna Maria Elizabeth (1819-81), a landscape painter, the wife of Jens J. (*q.v.*). She was Polish by birth and attracted considerable attention by her rustic Italian and native scenes.

Jerichau, Jens Adolf (1816-83), a Danish sculptor, was a pupil of Thorwaldsen. He was commissioned to carve a frieze for the royal palace of Christiansborg, near Copenhagen, and this piece of work, which was finely executed, established him in high repute. Among his best classical studies are: 'Heracles and Hebe,' 'Penelope,' and the 'Wedding of Alexander.' His religious subjects include: 'The Resurrection,' 'Adam and Eve,' and a figure of Christ. J. also made a portrait statue of Œrsted.

Jericho, once an important city of Palestine in the Jordan Valley, 15 m. N.E. of Jerusalem. It was in the midst of a fertile district where palms, rose trees, raisins, and balsams grew in profusion. The town was captured by the Israelites on their entry into Canaan, refortified by Hiel the Bethelite, destroyed under Vespasian, and rebuilt under Hadrian. Antony gave its groves to Cleopatra, and Herod the Great dwelt there.

Jericho, Rose of, or *Anastatica hierochuntina*, a species of Cruciferæ, which also alone forms a genus. It occurs in Palestine and N. Africa, and is able to live for a long period without water.

Jerked-beef, is beef dried in the sun. 'Jerked' is a corruption of the Chilean *charqui*, this mode of preservation having once been popular in Chile.

Jeroboam I., son of Nebat, was the first King of Israel after its separation from Judah on the death of Solomon. He was made Solomon's tax-gatherer in his own district of Ephraim, but the suspicion that he was about to raise a rebellion caused him to make a hasty flight into Egypt. On Solomon's death he returned, and headed the embassy to Rehoboam, asking for a lightening of the taxation. On the young king's refusal, he led the revolt of the ten tribes and was made their king (*see* ISRAEL). His erection of golden calves for worship at Bethel and Dan led to his name becoming a byword in later days as having 'made Israel to sin.'

Jeroboam II., son of Joash, was the fourth king of the dynasty of Jehu. Comparatively little is told of him in the Biblical narrative (2 Kings xiv. 23 ff.), but even here there is one inaccuracy. It is impossible that he can have taken Damascus while Hamath (v. 28) certainly never belonged to Judah.

Jerome Bonaparte, *see* BONAPARTE.

Jerome, Saint (Sophronius Eusebius Hieronymus), born of Catholic parents at the city of Stridon on the borders of Dalmatia and Pannonia, either in 331 or at some date between that and 340 A.D. At about the age of twenty he was sent to the Roman schools, where he studied the classical authors under Ælius Donatus. Here also he received baptism from Pope Siberius. Thence he went to continue his studies at Trier and later at Aquileia, at which universities he commenced his study of theology. He next commenced a tour in the East, arriving at Antioch in the year 373. Here a severe illness led him to embrace the ascetic life, and he retired for four years to the desert, spending his time in penance and study, especially of Hebrew. In 379 he was ordained priest at Antioch, whence he went to Constantinople. In 382 he visited Rome on ecclesiastical business, and here he began his work on the Bible. Here, also, he met Marcella, Paula, and other noble ladies who returned with him in 386 to Bethlehem. His controversial writings against the Pelagians here placed his life in jeopardy, and in 416 he was compelled to flee from his quiet retreat.

He died four years later. J.'s great work was his translation of the Scriptures into Latin, which has since that time remained in use throughout the Roman Church. The best editions of his complete works are those of the Benedictines (5 vols. fol., Paris, 1693-1706), and Vallarsi (11 vols., Verona, 1734-42).

Jerome, Jerome Klapka (*b.* 1859), an English author, educated at the Philological School, Marylebone, London. He was by turns schoolmaster, clerk, and actor before he took up journalism. He made his reputation as a humorist in 1889, with *Idle Thoughts of an Idle Fellow* and *Three Men in a Boat;* and from 1892 to 1897 he was co-editor of *The Idler* with Robert Barr. He was also editing *To-day* at the same time. In 1886 a one-act play of his, *Barbara*, was put on at the Globe Theatre. This was followed by many others, including *The Passing of the Third Floor Back*, in which Forbes Robertson made what will probably be remembered as his greatest 'hit,' if we except his *Hamlet*.

Jerome of Prague (*d.* 1416), an early Bohemian Church reformer and friend of John Hus. His part in the Hussite movement was much overrated. Little is known of his early years: he is said to have belonged to a noble [illegible] id to have been Hus. He began University, but proceeded to Oxford in 1398. He was impressed by Wycliffe's writings, and always lived a roving life. After leaving Oxford he went to the University of Paris, then to Cologne and Heidelberg, and finally returned to Prague in 1407. Here he attracted attention by his advanced and outspoken views, and offence was given because he exhibited Wycliffe's picture in his rooms. When the reorganisation of the Prague University was discussed, Hus and Jerome, as leaders of the Bohemians, incurred the anger of the king, who threatened them with death by fire, if they opposed his will. J. was arrested, but when in prison renounced the doctrines of Hus and Wycliffe. Later, however, he again maintained all the theories he had formerly advocated and was, in consequence, burned as a heretic.

Jerrold, Douglas William (1803-57), an author, after contributing to many papers and doing much literary hackwork, made a great success with his nautical play, *Black-eyed Susan, or, All in the Downs*, which was produced in June 1829 at the Surrey Theatre, with T. P. Cooke as the hero. He wrote other plays, the most popular of which was *Time Works Wonders* (Haymarket, 1845), but only *Black-eyed Susan* still holds the stage. When *Punch* was founded he joined the staff, and in its columns appeared the famous *Mrs. Caudle's Curtain Lectures*, 1846. His other works include: *The Story of a Feather*, 1844; *The Chronicles of Clovernook*, 1846; and *A Man Made of Money*, 1849. From 1852 until his death he edited *Lloyds' Weekly Newspaper*. A voluminous writer, all that survives besides *Black-eyed Susan*, are *The Caudle Papers*. He had a keen sense of humour and a caustic wit which made him many enemies, but in his writings he was blatant rather than refined. His books now seem very old-fashioned, and even his masterpiece is little read, save by students of the humour of the 'forties. There is a biography by his son Blanchard J. (1859).

Jerrold, Walter Copeland (*b.* 1865), an English journalist and author, grandson of Douglas William J. (*d.* 1857). He was sub-editor of the *Observer* (1892-1905), and from 1900 assistant editor of the *Londoner*. His works include biographies of M. Faraday (1891), Gladstone (1893), C. Lamb (1905), T. Hood (1907), G. Meredith (1902); *Triumphs of the Printing Press* (1896), *D. Jerrold and Punch* (1910), *Highways and Byways in Kent* (1907). He has edited Thackeray, De Quincey, Dickens, and others in the Temple Classics; *Nursery Rhymes* (1903-12), *The Book of Living Poets* (1907), *D. Jerrold's Essays* (1903). He writes for children as 'W. Copeland.'

Jerrold, William Blanchard (1826-84), an author, was the eldest son of Douglas J., at whose death, in 1857, he succeeded to the editorship of *Lloyds' Weekly Newspaper*. He contributed to many periodicals, and wrote many books and plays. His principal success as a playwright was with the farce *Cool as a Cucumber*, in which Charles Matthews, the younger, made his reputation. Among his best

[illegible]

Lytton, and Douglas Jerrold.

Jerrymander, *see* GERRY, ELBRIDGE.

Jersey, the largest of the Channel Is., belonging to the United Kingdom. It lies about 15 m. from the coast of Normandy, 95 m. from Weymouth, and 133 m. from Southampton, with which two ports it has regular steamboat communication. The coast rises abruptly on the N., while the E., W., and S. coasts are broken by a succession of wide bays and jagged reefs. The mildness of the climate and the

natural fertility of the soil, aided by the exceptional industry of the inhabitants, have made the island very productive. Fruit, vegetables, and flowers, especially apples and pears, grapes, oranges, early potatoes, tomatoes, and spring flowers, are exported to the English market. Cattle-breeding is another important industry; the special breed of small milch-cows being kept pure by the stringent laws against the importation of foreign cattle. St. Helier (27,866), the capital and chief port, is on the S. coast, but its prosperity is hampered by its harbour running dry at low water. J. governs itself by means of an 'assembly,' consisting partly of elected and partly *ex officio* members, with a lieutenant-governor holding the right of veto on legislation as representative of the British government. The inhabitants are mainly of Norman descent, and the official language is French. Area 45 sq. m. Pop. (1911) 51,903. For history *see under* CHANNEL ISLANDS.

Jersey City, the cap. of Hudson co., New Jersey, U.S.A. At the N. the Hudson and Hackensack Rivers make it almost an island, whilst southward it is flanked by New York and Newark Bays. It is the eastern terminus of many railways, has spacious docks along its 12 m. of water frontage, possesses many tobacco, rubber, and sugar-refining factories, and has excellent public buildings (including a free library) and schools. Paulus Hook occupied the site till 1820, when the city of Jersey was incorporated Pop. (1910) 267,779.

Jersey Shore, a settlement on the western fork of the Susquehanna R., in the Lycoming co. of Pennsylvania, U.S.A. Pop. (1910) 5381.

Jerusalem, a city of Judæa, and cap. of Palestine, situated 31° 46′ N. lat., and 35° 13′ E. long. It stands on a plateau formed of two hills, bounded both E. and W. by leys, that on the E. being the br Kidron referred to in the N.T. To the N. there are also two valleys. The generally exact idea of the geography and geology of J. is due to a succession of investigations which commenced in 1833. Since that time the work has gone on under various investigators, of whom the most prominent are De Vogüé (1860-63), Capt. Wilson, R.E. (1866), Capt. Warren, R.E. (1867-70), and Conder, R.E. (1872-75). Still results have been obtained b Palestine Exploration Fund commenced work in 1894, bu work is yet by no means fin Each of the two hills which for site of the city is a natural fo for the two are divided by a deep valley (the Tyropœon), and it is probable that from the earliest times they were so used. The lack of water must, however, have proved a serious disadvantage. The 'Virgin's Spring' in the Kidron valley, and just outside the old city wall, is the only spring near the city, and there is but one important well within. The water in the Pool of Siloam is brought from the Virgin's Spring, by a rock-cut aqueduct, running through the old Ophel wall. The Temple (comprising the district now known as the Haram) was built on the E. hill. On the W. hill was built the upper city.

For long it was thought that the name of Jerusalem was given to the city after its conquest by David, but this judgment has been reversed by the discovery of the Amarna tablets (*c.* 1400 B.C.) in 1890. Here the name occurs in the form Urusalim, some 500 years before the time of David. The derivation has been variously derived from Hebrew forms meaning 'the city of peace,' 'possession of peace,' 'foundation of peace,' 'city of (the god) Salim,' etc. In the Book of Joshua it is spoken of as Jebus, with the explanatory note 'which is Jerusalem,' and an account is given of Joshua's assault on it. It soon fell back, however, into the hands of 'the stranger,' and it was not until the time of David that it was permanently captured and made the seat of the regal government (*see* DAVID). This occurred at the beginning of the 10th century B.C. (For its history down to its destruction in the time of Zedekiah, *see* ISRAEL, where is also given an account of the attempts to rebuild it under Ezra and Nehemiah, of the various foreign powers under whose dominion it successively came, and of the factions with which the city was torn, until the time of its utter destruction by Titus, the Roman

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Hadrian, and the new name of Ælia Capitolina was given to it. During the first few centuries it passed through a period of tranquillity, but it again came into prominence, as the habit of pilgrimage to sacred places

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which later formed part of the Mohammedan mosque el-Aksa. In 614 the city was taken by Chosroës, the Persian, and most of the churches were destroyed. The city was recaptured by Heraclius in 627, but lost again nine years later, to remain in the hands of the Moslems until 1099. At the beginning of this period the mosque el-Aksa was erected on the site of the Jewish temple. In 1099 the city was taken by Godfrey of Bouillon and his knights, thus returning once more into Christian hands. But the Latin kingdom of J. was not long-lived, nor was it by any means stable during its continuance. It fell in 1244, after having been for a short time in the hands of the excommunicate Frederick II., to whom it had been ceded by treaty in 1229, after having been captured by the Moslems. Since 1244 J. has remained in Moslem hands, and during this period its history has been comparatively peaceful and uneventful. Nothing of importance can be mentioned, save its passing in 1517 into Turkish hands. *See* De Vogüé's *Temple de Jérusalem*, and *Les Eglises de la Terre Sainte*, 1860; Wilson's *Ordnance Survey of Jerusalem*; Le

flower, *i.e. girasole.*

Jerusalem Chamber, part of the deanery in Westminster Abbey, was originally the abbot's parlour, part of the abbot's house. It probably received its present name from the tapestries of the history of Jerusalem which formerly adorned it. The name is also noteworthy on account of its connection with the death of Henry IV., as narrated by Fabyan the chronicler (*cf.* Shakespeare's *Henry IV.*, pt. 2, iv. 4). The chamber was restored in 1624, and here the Assembly of Divines met in 1643. In later times it was the scenes of the labours of the revisers of the A.V. of the Bible (version of 1881). The

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As he married a wife with a dowry of £20,000, he had no need to live by his brush. His skill, indeed, lay chiefly in copying, and it seems that what success he had was due largely to the friendship and flattery of Pope and Walpole. J. himself, at least, had a high opinion of his paintings after Carlo Maratte, Titian, and Raphael.

Jervaulx Abbey, the ruin of an ancient Cistercian monastery which was once a great centre of life for the hamlet of Jervaulx, in Yorkshire, England. What is left of the cruciform church, the cloistral courts, chapter house, and refectory, etc., belongs to the Transitional Norman or Early English period. The last abbot was hanged in 1537, because he was implicated in the Pilgrimage of Grace.

Jervis, John (1734-1823), an admiral, fought in Keppel's action of 1778. He received the Order of the Bath after seizing the French ship *Pégase* in 1782, and took part, during the same year in the relief of Gibraltar by Lord Howe. In the course of the war with France at the time of the Revolution, he took possession of the W. Indian Is. of Martinique, Guadaloupe, and St. Lucia. In 1797 he ventured as admiral to close with the Spanish fleet off Cape St. Vincent in spite of tremendous odds; the result was a brilliant victory, in which Nelson participated. In the Addington ministry he served as First Lord of the Admiralty, but his somewhat drastic proposals of reform and his rigid economies proved an unpopular policy.

Jeshurun, 'a poetical name for the people of Israel' (Cheyne). The exact origin of the name is uncertain. It has also been suggested that it is used not for Israel only, but for righteousness, the ideal of Israel. It occurs in Is. xliv. 2; Deut. xxii. 15, and xxiii. 5 and 26.

Jesse, Edward (1780-1868), a writer on natural history, was appointed to a civil clerkship in 1798, and after serving as Lord Dartmouth's secretary, became deputy surveyor-general of the royal parks and palaces. Among his attractive and popular works are: *Gleanings in Natural History*, 1832-35; *Anecdotes of Dogs*, 1846; and *Lectures on Natural History*, 1861.

Jesse, John Heneage (1815-74), an historian, a clerk in the Admiralty, after endeavouring to write poetry, turned his talents to the field of historical memoirs. In 1840 he published *Memoirs of the Court of England during the Reigns of the Stuarts.*

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literature was *George Selwyn and his Contemporaries*, 1843.

Jessel, Sir George (1824-83), an English judge, born in London, was of Jewish extraction. He was called to the bar in 1847, made a Q.C. in 1855, and entered parliament in 1868, as a Liberal. He became Solicitor-General, was knighted, and made privy councillor and Master of the Rolls in 1873. He died in London.

Jesse Window, a window, especially common in the middle ages, which had designed upon it the genealogical tree representing the genealogy of Christ from 'the root of Jesse' (Is. xi.), father of David. There are examples at Wells, Chartres, the choir of Dorchester Abbey, Oxfordshire, and St. George's, Hanover Square, London. See *Quarterly Review*, January 1899.

Jessop, Augustus, D.D. (*b.* 1824), born at Cheshunt, studied at St. John's, Cambridge, and became headmaster at Helston in 1855, at Norwich in 1859, and rector, in 1879, of Scalning, E. Dereham. Among his works are: *History of Norwich Diocese*, 1884; and *Arcady, for Better for Worse*, 1887.

Jessore, or Jessor: 1. A dist. in Bengal, India, has an area of 2925 sq. m. It is a well-watered fertile plain, cultivated, and producing quantities of rice, sugar, oil seeds, jute, and tobacco. Pop. 1,810,000. 2. A tn. and cap. of the above dist., 66 m. N.E. of Calcutta; has manufs. of bricks, bamboo work, mats, and coarse textiles. Pop. 9000.

Jessulmir, *see* JAISALMIR.

Jest-books. There are two kinds of J.—compilations of witty sayings and practical jokes ascribed to some particular wit to ensure their sale and popularity, and collections of *facetiæ* admittedly brought together from various sources. The monkish raconteurs of the middle ages doubtless brought and spread many tales from the East, but numbers of typical jests and practical jokes probably existed independently throughout all countries and races of mankind, allowing for slight local changes. Among famous J. may be mentioned: *Tarlton's Jests: a Hundred Mery Talys* (*c.* 1525, 1st extant edition, 1611); *The Witty and Entertaining Exploits of George Buchanan, commonly called the King's Fool* (Buchanan long being famous rather as a humorist than a humanist); *Joe Miller's Jest-Book or the Wit's Vade Mecum*, 1739 (really compiled by John Mottley, 1692-1750). Other similar collections are the *Jests of Scogin* by 'A. B of Phisicke Doctour'; *Mery Tales, Wittie Questions, and Quicke Answeres, very Mery and Pleasant to be Redde*, about 1535; *Taylor's Wit and Mirth*, 1635, more original than most; and *Westminster Drollery, Choice Drollery*, and *Merry Drollery* (reprinted by Roberts of Boston) of the Cavalier period. Consult Hazlitt, *Shakespeare Jest-Books*, 1875; *Studies in Jocular Literature*, 1890; *The Literature of Roguery* (in *Types of English Literature*), 1907. *See* CHAPBOOKS, FOLKLORE, GOTHAM, TALES OF THE MAD MEN OF.

Jester, or Gestour, literally, a kind of minstrel or professional reciter of romances, 'gestes' (Latin *gesta*) or legendary tales. Later 'geste' became a synonym for a witty tale or clever sally, and gestour meant a clownish wit, merry-andrew, or buffoon kept by great people for their amusement, in imitation of the king's 'court-fool.' This custom dates from very early times. Court Js. probably existed in England in Saxon times, Hitard, fool of Edmund Ironside (*d. c.* 1016), being one of the earliest known. Goles, fool of William I., Will Somers, fool of Henry VIII.; and Archie Armstrong, fool of James I., are all famous characters. In France Thévenin de St. Leger (14th century), Caillet and Triboulet (15th-16th century), and Chicot (16th century) are well-known. As a court institution fools did not apparently outlive the Commonwealth in England. Dicky Pierce, the last private fool, attached to Lord Suffolk's household, died in 1728. Court-fools are mentioned in the Sanskrit *Ramayana*; Philip of Macedon, Attila, Harun-al-Raschid, and Montezuma all owned fools, and they flourished especially in the middle ages. The majority of professional Js. were by no means half-witted, at least not in later times, but merely assumed the cloak of folly which allowed of considerable licence of speech and behaviour. The traditional dress consists of parti-coloured garments, a fool's cap or hood with cockscomb, ass's ears, and bells, the sceptre (bauble or 'marotte'), and a large collar. *See* Douce, *Illustrations of Shakespeare*, 1839; Doran, *History of Court-Fools*, 1858; Nick, *Die Hof-und Volksnarren*, 1861; Chambers, *Mediæval Stage*, 1903.

Jesuits' Bark, *see* CINCHONA.

Jesuits, The, or The Society of Jesus, a religious order of the Roman Catholic Church, founded in 1534 by Ignatius Loyola (*q.v.*). The first object of the founder was a pilgrimage to the Holy Land, but Palestine was then the scene of Turkish invasion, and warfare and bloodshed were an effectual bar against all missionaries and pilgrims. It was thus that the Spaniard renounced his first and

cherished dream, and turned his thoughts towards restoring the fallen prestige of the papacy, whose authority was so gravely imperilled by the rapid secession of Protestant or Reformed Churches in all parts, and in this way Loyola came to be intimately associated with what is called the Counter-Reformation. In 1540 he obtained the sanction of Pope Paul III. for the new rule of Society of Jesus, and at Rome in same year was elected as the first of its generals.

Loyola was a man of [illegible] will and force result that society has since the day following is training from [illegible] until his final admission to the full brotherhood of the order. The first four weeks are spent in concentrated meditation over the *Exercitia Spiritualia*, a manual which the founder himself composed: they are spent in solitude, and the neophyte is directed by a process of intense materialistic realisation to conjure up the scenes of the Passion and the agonies of hell, etc. During this month he is encouraged to practise fasting and flagellation, but afterwards his way lies far from the path of asceticism. For the next two years he is a pupil in a Jesuit house, when he is under the careful surveillance of some master. If he shows intellectual ability, he is sent to a Jesuit college, where he receives a rigorous and thorough grounding in languages, science, and theology. His education lasts for five years, after which he is sent out to teach for a similar period in some school of the order. Since he completed his novitiate at the Jesuit house, he has been known as a scholastic, and he is now qualified for ordination as a priest, and becomes a spiritual coadjutor. Those novices who, it is thought, would not profit by a prolonged mental training, are made lay-brothers, or temporal [illegible] and on them devolve and menial offices of t [illegible] such as the distributi [illegible] the [illegible] Bo [illegible] by [illegible] and obedience. Confessors, preachers, heads of schools and colleges, and teachers among Jesuits usually belong to the rank of spiritual coadjutors. The Jesuit is not initiated into the professed until he is about forty-five, and even then he is not a member of the 'veritable company' unless he takes the fourth vow and thereby consecrates his life to the special service of the pope.

The general is elected by a congregation of professed members, in which each province is represented by the provincial and two elected fathers. He holds office for life and is advised by a council of five assistants, whose recommendations, however, he is at liberty to disregard. The general derogates the administration of the [illegible] to certain chosen [illegible]ermed provincials, [illegible]ppoints the headsuperiors of all novitiates, colleges, and professed houses or residences. It will be seen that a great deal of power is concentrated into the hands of the one man.

In course of time the order spread over Italy, Spain, Portugal, France, Germany, the Netherlands, England, and Russia, but both in France and this country its foothold was always insecure. Its history may be divided into three periods, namely the rise, the suppression, and the restoration. In his work of building up the society and disseminating the new ideas, Loyola was generously assisted by a band of eager disciples, including James Lainez, Francis Xavier, Nicholas Bobadilla, and Francis Borgia among his own countrymen; Rodriguez, a Portuguese, and Peter Le Fevre, a native of Savoy. So successful was their work, that on the celebration of its first centenary, the order counted 13,112 members dispersed over as many as thirty-two provinces. Moreover, Jesuit missionaries were despatched to all corners of the earth, and wherever they went they carried with them learning and culture, besides the message of their church. Thus their missions flourished in China and Japan, and in places so [illegible] Portuguese one hand, and Cali[illegible] forma on the other.

Portugal expelled the Jesuits by a royal decree of 1759, and France and Spain soon followed her example. Finally Clement XIV., actuated by a [illegible]o establish the peace' of the issued his momentous bull, *ac Redemptor Noster*, by which the society was suppressed throughout Christendom (1773). At this time there were 61 novitiates, 176 seminaries, 669 colleges, 335 residences, 24 professed houses, and 275 missions in heathen countries: the membership was estimated at 22,589. The suppression, however, was only temporary, and in 1814 Pope Pius VII. restored to the Jesuits all their former privileges. Yet, although the society to-day has many foundations in Belgium, Ireland, the United States, and Italy, etc., it has never regained its former position of authoritative

importance. From Spain its members were eventually banished once and for all in 1868; the same thing happened in France in 1880; in Russia as early as 1820; in Germany in 1883; and in Switzerland in 1848. From England Jesuits were very early excluded by penal laws, which imposed death as the penalty for disobedience. When these were relaxed and all religious communities were tolerated, the Jesuits came across in small numbers from Europe, but Stonyhurst in Lancashire is their one settlement of importance.

The causes which led to their universal expulsion in the 18th century may be traced back to the theories and ideals of the founder. The pope is Christ's vicar here on earth, and therefore the first duty of the true Catholic is implicit obedience to his dictates. Inasmuch as a king is merely the delegate of the people, with whom all power finally rests, he may be lawfully removed, or even murdered, if he disregard the authority of the supreme pontiff, who is superior to him exactly as the soul is to the body. This doctrine all conscientious Jesuits continued religiously to preach, and from this arose their actual or suspected complicity in a long series of conspiracies and plots, including the murder of the Regent Morton in Scotland: of Henry III. of France in 1584, and of Henry IV. in 1594; and of the Prince of Orange in 1580. Similarly, the Jesuits are believed to have had a hand in Babington's conspiracy against Elizabeth: in the formation of the League of Guise; in the revocation of the Edict of Nantes, and in the outbreak of the Thirty Years' War. It is clear that European countries, one and all, regarded the Jesuits as a menace to the constitution and state, by reason of certain dogmas which were directly subversive of secular government. And there were other reasons, too, why the Jesuits came to be hated by the common people. Obedience was always a cardinal Jesuitic virtue: throughout every grade of the society the word of a superior was law. 'I desire,' says Ignatius, 'that you strive and exercise yourselves to recognise Christ our Lord in every Superior.' 'A sin, whether venial or mortal, must be committed, if it is commanded by the Superior in the name of our Lord Jesus Christ, or [illegible]
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istry which are the chief grounds of attack in Pascal's irresistibly witty indictment of the order in his *Lettres Provinciales*. And not only did the common people dislike the casuistry of the Jesuits, but also their worldliness and reliance on intellectual and often very subtle, rather than purely pious and straightforward, means of compassing what was admitted to be a worthy end; for it was thus that Ignatius directed his disciples to look for neophytes. Search out men 'less marked by pure goodness than by firmness of character and ability in conduct of affairs, since men who are not apt for public business do not suit the requirements of the company.' Such are the faults that the popular mind sees in the character of the Jesuit, yet the self-devotion, constructive genius, and almost fanatical enthusiasm and, above all, the zeal for thorough and scientific education which members of the society have continued for centuries to show, cannot fail to impress every student not merely of history, but of the more intimate field of human psychology, and to secure even in Protestant countries some measure of sincere admiration.

Jesus Christ. It seems hardly necessary to call attention to the impossibility in the scope of a few pages of doing more than glance at a very few facts of the greatest of all lives and the way in which that life has influenced mankind. The earliest disciples were asked by the Christ, 'Who do men say that I am?' and already there were manifold answers. After the lapse of centuries they have become almost innumerable, for in every age this question has been followed by the question, ever demanding an answer, to every soul who has come in contact with Him, 'Whom say ye that I am?' The present age is, perhaps, more vitally interested in the personality of Jesus Christ than any which has preceded it, and the great strides which have been made in the science of biblical criticism have led to a better and fuller understanding of the way in which He was regarded by His apostles and the early Christians, and on the gradual evolution of the dogmas concerning Him. But these great advances in knowledge cannot be said to have made any revolution in our conceptions of the Christ, they have discovered no new gospel. For the main facts in our Lord's life and the general purpose of His work are part of the tradition of the Church, and the existence of the Church can [illegible] xplained by the belief of its [illegible] iembers. As Dr. Armitage says in *The Study of the Gospels*, with reference to the life, death, and resurrection of Jesus Christ: 'Even if our Lord, who so far as we know wrote nothing Himself, had charged His apostles also to commit nothing to writing, and

if, as a consequence there had never been any written New Testament at all, the main facts would still have been handed down from generation to generation in the Christian society, whose very life was bound up with them. These facts were necessarily taught to all candidates for baptism, and they were summed up from the earliest times in a baptismal creed. And indeed the one method by which our Lord expressly desired that He should be kept in remembrance would by itself have handed down across the centuries, by a perpetually repeated act, the story of His death together with its amazing sequel. These great facts depend on no mere book-evidence. They are proclaimed to all the world by the continuous existence of a living society which is founded upon them.' Passing on, however, from these considerations, it will be found that our knowledge of the life of Christ depends entirely upon the canonical books of the Bible. References to Jesus in non-Christian historical literature of the first centuries are rare, and the chief of these, such as those of Philo and Josephus, have almost certainly undergone Christian interpolation. Generally, however, the profane historians of the period show complete ignorance of the life of Christ, and a very imperfect acquaintance with the life and doctrines of the Christian community. The apocryphal gospels which have come down to us consist of ridiculous legends without even the excuse of verisimilitude for their existence. The ordinary Christian of to-day suffers no loss by being totally ignorant of their existence. Not a single fact with reference to the life of Jesus can be gained from them. Nor does the rest of early Christian literature furnish us with any knowledge beyond that which has received the imprimatur of the centuries. Turning, then, to the pages of the N.T., it is in the epistles of St. Paul that we find the earliest references to the events of our Lord's life. It is important to notice that the references are incidental, being introduced on account of the lessons that may be drawn from the events referred to, rather than from any desire to insist upon the facts themselves. It is interesting to note how weak was the interest of the early Church in purely biographical details such as would delight us now. The earthly life of Jesus seemed then of less moment than the risen and ascended life in which all His members were sharing. It was not until certain heresies arose denying the true humanity of the Christ that the necessity for narratives of our Lord's life became clear. Even then nothing in the way of an ordered biography was produced. It is impossible here to compare with modern views the way in which the writing of history was then regarded among the people to whom fell the duty of recording the events of the sacred history, but it may be well to point out once more how little even of the time of our Lord's ministry has its events fully recorded, and how freely the order of events is changed to suit the particular purpose the author has in view. The first of the Gospels in point of date is St. Mark. Moderate criticism, which will be followed in this article, is willing to admit the Marcan authorship, and dates the Gospel shortly before the year 70 A.D.; Dr. Harnack places it between 65 and 70. The Marcan narrative is the most vivid, and shows less signs of religious decorum than do the later works. It is interesting to note, for example, how in the First and Third Gospels, expressions relating to the emotions and most distinctively human actions of Christ are removed or softened down. St. Mark tells us of Christ's anger, compassion, and satisfacton, on more than one occasion, also of actions such as His groaning, embracing, and falling down. If we compare the parallel passages in St. Matthew and St. Luke we shall find that almost all of these disappear, with the notable exception of the agony. It is usual to follow the Marcan narrative, moreover, in regard to the order, as it is apparently less artificial than the others. It is now generally considered an axiom that the compilers of the First and Third Gospels made use of St. Mark's Gospel, and also of another source (generally spoken of as Q) which they had in common. St. Luke is accepted as the author of the Gospel which bears his name, and which is dated shortly after the year 70 A.D. Dr. Harnack places it somewhat later, between 78 and 93. The question of the authorship and date of St. Matthew's Gospel is far more difficult, and no definite conclusions have yet been reached, nor does one yet seem to be in sight. Dr. Harnack dates it probably between 70 and 75, except certain later additions. The last Gospel (see GOSPEL ACCORDING TO ST. JOHN) is obviously written from an entirely different point of view from that of the synoptic gospels, and stands on a different plane. Its historicity has long been regarded as a somewhat negligible quantity, but there are now some who would reverse this judgment. It attempts even less than the other

Gospels, however, to give an account of the actual events of the life of Jesus, and an attempt to appreciate its importance would be out of place here. Let us turn, then, to St. Mark's Gospel, and, reading it rapidly through as if it were a new story, try to see how step by step the unique character of Jesus is revealed. Notice how the writer plunges immediately into the preparation for the ministry he is about to deal with, after the proclamation of his subject, 'the gospel of Jesus Christ the Son of God.' First John the Baptist is introduced, and we hear his preaching of repentance and the warning of one who will follow him. Then Jesus comes from Nazareth, we hear His words, we see His actions. At first He is welcomed as a prophet, but soon His uncompromising propaganda of reform and His resolute attack on formalism brought suspicion and irritation. Then the political situation is gradually revealed and we see how step by step, with eyes wide open, the great teacher goes voluntarily to death, a death followed, however, by the supreme miracle of the resurrection, on which His Church was founded. It will be immediately noted how limited is the scope of St. Mark's Gospel, but some explanation of this is furnished by the passage in the Acts which stated the requirements in candidates for the place in the apostolic band rendered vacant by the death of Judas Iscariot. Only those were eligible 'which have companied with us all the time that the Lord Jesus went in and went out among us, beginning from the baptism of John, unto the day that He was received up from us, of these must one become a witness with us of His resurrection.' It will be seen that this period corresponds almost exactly with that covered by St. Mark's Gospel. Both the later synoptic evangelists felt that some information on the earlier life of our Lord was necessary, and tradition tells us that St. Luke's information was gathered from the Blessed Virgin herself. This renders possible a sketch of the life of Jesus, as the Gospels tell it. In the city of Nazareth in Galilee there lived a virgin named Mary, espoused to Joseph, the carpenter, a righteous man of the family of David. To her came the Angel Gabriel with the message that she should conceive by the power of the Holy Ghost and not in the ordinary course of nature, and should bring forth a son Jesus, who should be called the Son of God. In due course this miracle came to pass, and Joseph was assured by a vision of his wife's great work. But as the time for the birth of the child drew near it became necessary for Joseph and Mary to travel to Bethlehem in Judæa, and here, in a stable, the child Jesus was born, and to Him came shepherds and Magi offering their worship. The visit of the Magi brought danger in its train, and almost immediately it became necessary for the holy family, after the circumcision of the child, to flee into Egypt. Here they remained until the death of Herod, when they returned and dwelt at Nazareth. It is not very easy to date all these events, but there is now general agreement that the popular chronology places the Nativity four years too late, and that the birth of Christ actually took place four years before that from which we date the commencement of the Christian era. The dogma of the Virgin Birth has naturally been a source of attack on the Christian faith from the beginning. It was early denied by the Gnostic heretics, but the Church then, as always, upheld this vital truth. Those who deny the *a priori* possibility of miracles are, of course, unable to accept it, but the Church shows no inclination to insist less on them. The miracle of the Incarnation, at least, forms the very foundation of the belief in Christ's divinity. Only one other incident of Christ's childhood is told us, this again by St. Luke, the story of the finding of the boy Jesus in the Temple, listening to the instruction of the doctors. It is especially valuable because it testifies so clearly to the true humanity of the Christ, which has often been obscured by those anxious to lay stress on the truth of His divinity. But that our Lord's was a true humanity is shown by St. Luke's statement, 'Jesus increased in wisdom and stature and in favour with God and Man.' The apocryphal gospels show none of the delicate reticence of the canonical books. A certain number of them, such as the *Protevangelion* and the *Gospel of the Infancy*, deal with the earlier parts of our Lord's life, but the incidents recorded there are fantastic and ridiculous in the extreme. They can hardly, indeed, be called Christian at all, so directly contrary is the spirit of many of them to the spirit of Christ. Their falsehood is, indeed, so glaringly apparent that the trouble of fabricating them can hardly have been attended with any success in gaining credence for them. Except for the single incident referred to above, the canonical gospels preserve complete silence as to the life of Jesus at Nazareth. But from the reference which the Nazarenes make to Him when He visits them in His time of

ministry, 'Is not this the carpenter?' we may gather that during these years He quietly pursued the trade of Joseph. Then, after years spent in obscurity and humble labour, comes Christ's brief period of public ministry. Its exact length is uncertain. From the synoptic gospels we should gather that the ministry was almost entirely in Galilee, and that it lasted only one year. But the last gospel relates only events which occurred in Judæa, and speaks of three passovers spent there. The beginning of the ministry of Jesus is closely connected with the preaching of John the Baptist. Jesus came to him for baptism, as did those others whom his preaching had moved to repentance, and the Gospels are agreed that John bore witness of Jesus, of whom he declared himself to be merely the forerunner. It is impossible to realise what was the full significance of this baptism by John. The fact that Jesus came so far to seek it, however, seems to show that He had a strong interest in John's work, and that it was as his successor that He was willing to make His entry into public life. We do not know how long Jesus remained in the deserts of the lower Jordan, but during this period occurred the Temptation, when He was 'driven of the Spirit into the wilderness.' After this period of strong spiritual trial and, says St. Mark, 'after that John was delivered up,' *i.e.* thrown into prison by Herod, Jesus returned to Galilee where His public ministry began. We hear of only one visit, and that an unsuccessful one, to His native city of Nazareth. Capernaum, called in Matt. ix. 1 'His own city,' seems to have been the city to which He most frequently returned. His ministry may well be divided into two kinds: a public ministry of preaching to the people, and the private work of teaching His disciples, to which He seems to have given Himself more and more exclusively as the external opposition to His work increased. The public ministry was at first carried out by teaching in the synagogue, 'They go into Capernaum; and straightway on the Sabbath day He entered into the synagogue and taught' (Mark i. 21). This beginning of the preaching ministry was followed by a tour through Galilee. So far as we can say no one of the addresses delivered by Jesus in the synagogue has been reported, and certainly none is given in its setting. Many suggestions have been made, however, as to what parts of the reported addresses might suitably have been given in this way. St. Luke tells us the text of the address at Nazareth from the prophet Isaiah, 'The Spirit of the Lord is upon Me, because He anointed Me to preach good tidings to the poor: He hath sent Me to proclaim release to the captives, and recovering of sight to the blind, to set at liberty them that are bruised,' and he goes on to say that Jesus began His address with the words, 'To-day hath this scripture been fulfilled in your ears' (Luke iv. 21). This agrees well with St. Mark's statement that 'Jesus came into Galilee, preaching the gospel of God, and saying, The time is fulfilled and the kingdom of God is at hand: repent ye and believe in the gospel' (Mark i. 14). Thus it may be gathered that the promised Kingdom of God was the main theme of Christ's discourse, and that He spoke as bearing good news and not as proclaiming a judgment, though the note of warning ever appears. Two things were required in those who heard Him—repentance and faith. Very particularly, too, was Christ's message addressed to the lower classes of Palestine. No one casually reading the gospels can fail to be struck by the continual references to publicans and sinners, and this aspect of the Lord's preaching may well be summed up in His own words, which appear in all three of the synoptic gospels, 'I came not to call the righteous, but sinners.' On many occasions we read of Jesus attending feasts in the houses of people of this class, and in this, as in other ways, we see the contrast between His method and that of the Baptist, 'John came neither eating nor drinking . . . The Son of Man came eating and drinking.' When we consider the peculiar care with which St. John selects each of the miracles he narrates, additional emphasis is thrown on the fact that the first miracle he chooses shows Christ at the marriage in Cana of Galilee, hallowing the highest of human relationships. But though everywhere throughout the Gospels we see the tender love and sympathy of Christ for all that is good in man, it is particularly easy at the present day to overlook what we may call the ascetic side. In this there was no shadow of a compromise: 'If any man will come after Me, let him take up his cross and follow Me.' There are, too, the stern words about those who commence and then give up the work they have undertaken, and the great promises to those who would forsake everything they held dear to follow Him. The events in the last few weeks of His life show how necessary these warnings were. The method of teaching of which Jesus

made use in His public preaching was the common Eastern one—by means of parables. St. Mark says that 'with many such parables spake He the word unto them, as they were able to hear it: and without a parable spake He not unto them' (iv. 34). Some difficulty may be caused by the apparent contradiction between this statement and the one which precedes it (iv. 11 ff.), when the disciples came to ask an explanation of the parable of the Sower. Here we read that Jesus said unto them, 'Unto you it is given to know the mysteries of the kingdom of God, but unto them that are without all things are done in parables: that seeing they may see, and not perceive; and hearing they may hear, and not understand, lest haply they should turn again and it should be forgiven them.' This statement seems to be a reading of the cause in the light of the after events, the anticipation of the result rather than the motive of the action. The idea of such a motive for parables is impossible in the light of the whole narrative. Large numbers of the parables of Jesus are collected in the synoptic gospels, and all are of a homely kind, likely to be appreciated by people of all classes. The writer of St. Matthew's Gospel, following his usual method of dividing his narrative into groups of events of a similar character, gives almost all the parables together in chap. xiii. In the other Gospels they appear to be arranged in a less studied manner, though, unfortunately, it is impossible to locate the actual occasions on which most of them were spoken. No less important, however, than our Lord's public preaching ministry, the apparent success of which, if we may judge from the parable of the Sower and the preceding discourse, was very slight, was the work of instructing those who had definitely chosen Him as their Master and who could say, 'Lord, we have left all and followed Thee.' In this connection it may not be irrelevant to notice that St. Mark begins his account of the Galilean ministry with the calling of the first four disciples, Simon, Andrew, John, and James, and that not till then does he go on to tell of the teaching at Capernaum. The importance of Christ's teaching work is shown, too, by the antithesis which is continually [illegible] the disciples and the [illegible] St. Mark's Gospel do [illegible] thesis most clearly of [illegible] also the succession of attempts which Jesus makes to secure the requisite time and quiet for instructing His disciples. One occasion is particularly well known, and is a type of what must probably have happened in a lesser degree on many occasions. On the return of the apostles from the teaching mission on which they had been sent, Jesus said, 'Come ye yourselves into a desert place apart and rest awhile,' and the significant note is added, 'for there were many coming and going and they had no leisure so much as to eat.' As the opposition of the religious authorities became more and more decided, Jesus attempted to withdraw more and more from public life in order to devote Himself to this other work. It is probable that the excursion into Tyre and Sidon and the still more noteworthy expedition to Cæsarea Philippi, which was the occasion of St. Peter's confession of Him as the Messiah, were prompted both by a desire to avoid the notice of His powerful enemies and also by the desire for quiet. The slow journey down to Jerusalem for the last Passover was also engaged chiefly in instruction, chiefly on the subject of His rapidly approaching death, of which the disciples still seemed painfully ignorant. The depth of the tragedy of this ignorance, and the surest sign of their failure to rise as yet to the heights whither their Master called them, is shown well in St. Mark's vivid narrative. The disciples and Jesus were on their last journey to Jerusalem. The time of their preparation was almost over, and the Christ was still striving to impress upon them the fact that He was going to death, 'and they were amazed.' Then, following immediately on a clear and explicit prophecy of the Crucifixion (x. 33 and 34), we read in the next verse how James and John, the sons of Zebedee, came asking for the posts of honour in the Messianic kingdom that they expected He was about to found, followed by our Lord's attempt once more to teach them their lesson.

Closely connected with our Lord's teaching work was His ministry of healing, and it is important to notice once again how this comes into prominence at the beginning of the Galilean ministry. We have seen how this started with the call of the first four disciples and with the preaching in the synagogue at Capernaum. But this initial preaching was connected with the casting [illegible] of an unclean spirit, and St. [illegible]'s account showed that it was [illegible]iracle rather than the teaching [illegible] first struck them and brought with it a sense of power, 'They were all amazed insomuch that they questioned am[illegible] What is this? [illegible] authority he [illegible]

unclean spirits and they obey Him' (Mark i. 27). Almost immediately afterwards we read how this work of healing was carried on even more widely in the district round, when they had retired to Simon's house, 'At even, when the sun did set, they brought unto Him all that were sick and them that were possessed with devils. And all the city was gathered together at the door. And He healed many that were sick with divers diseases and cast out many devils' (i. 32-34). These are but a few of the numerous miracles recorded in the gospels, occupying quite as prominent purpose in St. Mark's Gospel as in the others. Often, as in the verses quoted above, we have a large number of miracles disposed of in a group. On other occasions we have a more or less complete account, when certain peculiar circumstances or some discourse attached to the miracle renders it more noteworthy. Thus we have the large class of miracles spoken of as casting out devils, where some emphasis seems generally to be laid upon the recognition of Jesus by the evil spirits, and His invariable command of silence. Thus in the first case, the casting out of the evil spirit from the man in the synagogue at Capernaum, we read that the devil, speaking through the man cried out, 'What have we to do with Thee, Thou Jesus of Nazareth? art Thou come to destroy us? I know Thee Who Thou art, the Holy One of God. And Jesus rebuked him saying, Hold thy peace, and come out of him.' Similarly, after the healings summarised in vv. 32-34 we read, 'He suffered not the devils to speak because they knew Him.' All these numerous miracles are closely connected with the main narrative, and it is hardly reasonable to try to explain them away as a late excrescence. The attack on the credibility of miracles has come during the last few centuries from many different quarters, and eminent men have always been found who were prepared to defend them. The question is still an important one even in the present century, and it may be well to quote the words of the late Dr. A. B. Bruce on the position of the N.T. miracles. This very distinguished biblical critic in his article 'Jesus' in the *Encyclopædia Biblica*, after remarking on the distaste which many feel for the whole subject, says that, as a question of fact 'the healing ministry, judged by critical tests, stands on as firm historical ground as the best accredited parts of the teaching.' There may quite possibly be methods of scientifically explaining the way in which Christ's healing work was performed, and attempts may be made to show that Christ's powers were in this respect not beyond the limits of the purely human. Such researches are profitable but lie within the domain of the scientist and not that of the theologian. Much of the difficulty in accepting miracles, however, seems to lie in the pre-supposition that Jesus was not God. It was realised only during the last century that 'the pre-suppositions of the critical mind need examining no less than those of the orthodox,' and this particular pre-supposition is particularly apparent in criticism to-day. Of the many valuable works in defence of the miraculous that have appeared, there is none which treats the subject with such force and freshness as Mr. G. K. Chesterton's *Orthodoxy* (1909), which Dr. Figgis has described as 'a volume worth more than any dozen ordinary apologetic works.' There is no doubt, however, as to the motive with which Christ's acts of healing were done. They show Him as tender and compassionate, the healer not only of spiritual but also of physical ills.

But it is now time to record briefly Christ's attitude towards the religious leaders of His time. It is almost entirely one of condemnation. The aim of these leaders was to secure a uniform observance of external rites, to secure the carrying out of the letter of the law even if the

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not teach that they should be disregarded. What they commanded was to be observed and done, but their actions were not to be imitated. Here, again, in the question of the observance of the law, they are blamed not so much for their care of minute details as because they hypocritically allowed this care to usurp the care of weightier matters, 'These things ought ye to have done and not to leave the other undone.' Against one particular point in the Pharasaic formalism, the strict observance of the Sabbath day, Christ seems to have deliberately carried on a campaign, and it was His action in this respect that precipitated the conspiracy of the Pharisees and chief priests against Him. The summing up of Christ's teaching on this subject, the words 'The Sabbath was made

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essence of His whole teaching' in regard to external observances. An equally sweeping generalisation is that with reference to the many washings, 'there is nothing from

without the man, that going into him can defile him: but the things which proceed out of the man are those that defile the man' (Mark vii. 15). So the leaders of the religious world took council with the Herodians against Jesus, how they might put Him to death, and by the time of the last Passover, their preparations were completed and the end came. A week before this, Jesus entered Jerusalem in triumph, as all three evangelists tell us, and thus, according to St. Matthew, a Messianic prophecy was fulfilled. The enthusiasm of the people on this occasion still further infuriated the religious leaders, and His immediate death was resolved on. The week that followed was crowded with incidents. The nights were spent at Bethany and each day the little party went in to Jerusalem. Many incidents are recorded, but some stand out above the rest. On the evening before the Passion occurs the Last Supper, the mystic feast of which the actions have been repeated by all Christian communities from that time till the present day in accordance with Christ's command to do this in remembrance of Him. Then follows the Agony in the Garden, and thus begins the story of the Passion. This story is narrated at considerable length by each of the four evangelists, and there are certain notable differences though there is agreement in the main outline. All are agreed that it was by the treachery of Judas Iscariot, one of His own most intimate followers, that Jesus was betrayed, and that then He was tried in great haste. Before the Roman governor it was the political aspect of the Messianic claim that was used against Him, and ultimately His condemnation was secured. Meanwhile, all the twelve had forsaken Him and fled, while Peter, the chief of the disci[illegible] his Master. [illegible] place in h[illegible] hurried to [illegible] But He is t[illegible] to bear His own cross, and in this He is aided by Simon of Cyrene. At Golgotha He is crucified, bearing over Him the title *King of the Jews*. This is the main outline of the tragic story which must have been the portion of the life of Jesus of which records were earliest made. This death has changed the world. It is not the place here to enter into the slightest discussion of the great problem connected with the nature of the Atonement (*q.v.*), the understanding of which has progressed so considerably in recent years. But it is necessary to point out that the work of Christ can hardly in any sense be said to have ended with the Crucifixion. Did we end the life of Christ at this point it would be a record of failure rather than of victory that we should have narrated, and the world would be left with no alternative but the most extreme pessimism. In a sense it would be true to call the earthly life of Jesus as only a beginning. St. Luke, for example, at the beginning of the Acts of the Apostles, speaks of his former treatise as being concerned with all that Jesus *began* both to do and to teach until the time that He was taken up. In this sense, the story of the life of Christ is still continuing, as He still works in His Church. The Gospels tell us that on the third day from His Crucifixion, Jesus rose again from the dead, and that in this He is but the first-fruits of mankind. It was the gospel of the Resurrection that the apostles went forth preaching, as the Acts and the Epistles abundantly testify. So clear is this that hardly the most sceptical of critics has doubted that the disciples were themselves utterly convinced of the Lord's resurrection, whatever he may conceive the truth of the matter to have been. Further, we learn from the canonical scriptures that forty days after the Resurrection, having frequently appeared to His apostles and instructed them in 'the things pertaining to the kingdom of Heaven' He was in their sight received up into Heaven, where 'He ever liveth to make intercession for us.' At the Incarnation, God, the eternal Logos, had been made flesh by taking perfect manhood into God, and after the years of His work spent on earth, had returned, still retaining His human nature, to the Father's side.

Anything in the nature of a complete bibliography is impossible. The Gospels themselves must ever form [illegible]nd-work and centre of any [illegible] to write the life of Christ. *Diatessaron* was the first [illegible] to form a harmony of the [illegible] many such have been made since. Apart from such harmonies the first life of Christ is the *Vita Christi* of St. Bonaventura. Since that time lives of Christ have been written in all European languages. The best-known English *Life* is that of Dean Farrar (1874), which has been followed by many others.

Jesus College, Cambridge, lies apart from, and to the N.E. of, the majority of the colleges. It was founded in 1496 by John Alcock, Bishop of Ely. Its site was previously occupied by a Benedictine nunnery dedicated to St. Radegund. The name first given to the college was 'The most blessed

Virgin Mary, St. John the Evangelist, and the glorious Virgin Saint Radegund,' but the founder intended it to be known as J. C. He provided for a master and six fellows, but the foundation now consists of a master and sixteen fellows, with twenty scholarships or more. There are several other scholarships confined to the sons of the episcopalian clergy. Architecturally, Jesus is one of the most interesting colleges in Cambridge, for Alcock retained, and there still remains, a considerable part of the old buildings of the nunnery. The tower is retained, the bulk of the building is Early English, but there are Norman traces. The most famous name connected with the place is that of Cranmer. The college colours are red and black.

Jesus College, Oxford. This college has always had an interesting connection with Wales. Queen Elizabeth was its foundress in it of 1571, but Hugh ap Rice native of Brecon, endowed original foundation was for a principal, eight fellows, and eight scholars. It now consists of a principal and not less than eight or more than fourteen fellows, and there are twenty-four foundation scholarships, besides others and exhibitions, mainly on the foundation of Edmund Meyricke, a native of Merionethshire, who entered the college in 1656, and was a fellow in 1662. Not only his scholarships but others are restricted to fellows born in Wales, or of Welsh parentage. The college faces Turle Street; the front is a reconstruction of 1856. The chapel dates from 1621, the hall from about the same time, and the library from 1677. The college colours are green with white edges.

Jesus Sirac, *see* ECCLESIASTICUS.

Jet, a kind of lignite or anthracite, which can be easily cut and carved, and takes a fine polish. It probably takes its name from Gasgas, in Lycia, where, according to Pliny, a similar substance was found. It has been used in Britain for ornaments from prehistoric times, necklaces, beads, buttons, etc., of the Bronze Age, having been discovered in various parts of the country, and Caius Julius Solinus (3rd century) alludes to the abundance of J. in Britain. Caedmon, too, refers to the J. It was probably obtained from the coast of Yorkshire and especially Whitby, where the finest quality is still found. It is also imported from Spain, but Spanish J. is generally less hard and lustrous than that found at Whitby. It is found, too, in the department of Aude in France, and in the Lias of Würtemberg, and is known in many localities of the U.S.A. It is chiefly used for mourning ornaments, but imitations occur in vulcanite and in glass.

Jeton, or **Jetton,** a round piece of metal or ivory, which was formerly used in card games for counting, as well as a pass to the gaming tables.

Jetsam, *see* FLOTSAM.

Jeunesse Dorée, La, the gilded youth of a nation, that is to say, the rich, unmarried, fashionable young men.

Jever, an old tn. in the grand-duchy of Oldenburg, Germany, was formerly the capital of the Dutch principality of Friesland. Chief manufs. are woollen and leather goods; tanning and dyeing are also carried on. Pop. 5787.

Jevons, William Stanley (1835-82), an English economist and theologian. At fifteen he was sent to London to University College School. He already believed that important as a thinker were im. Whilst at Univerhis favourite subjects were chemistry and botany. He unexpectedly received the assayership to the new mint in Australia; he accepted the post because in financial need. He remained in Sydney for five years. In 1859 he again entered University College as a student, proceeding in course to the B.A. and M.A. degrees of the University of London. Not long after taking his M.A. degree, he was appointed tutor at Owen's College, Manchester. In 1866 he was elected professor of logic, and mental and moral philosophy, and Cobden professor of political economy there; in 1876 he exchanged the Owens professorship for the political economy chair in University College, London; in 1880, owing to ill-health, he resigned. He met his death whilst bathing at Hastings.

Jew, The Wandering, a legendary Jew who, for some insult offered to Christ at the time of His Passion, is doomed to wander eternally throughout the world. The story is of no antiquity and does not appear at all in the East, no reference being made to it even in the great work of Jean d'Outremeuse. The tradition varies considerably, and no two versions agree as to the name of the Jew. The chronicle of St. Albans Abbey for 1228 tells of the visit of an Armenian bishop who gave an account of the W. J. under the name of Kartaphilos. According to this version, he was a door-keeper of the Judgment Hall, and as Jesus passed out he struck Him saying, 'Go, Jesus, go on faster,' to which the Christ replied, 'I go, but thou shalt tarry till I come again.' Matthew of Paris, continuing the

same chronicle, tells us that Kartaphilos was baptised by Ananias under the name of Joseph, and henceforth, at the end of every hundred years, falls into a trance from which he wakes to find himself at the age of thirty, the age at which he was when he struck Jesus. Another legend calls the Jew Ahasuerus, a cobbler, while another calls him Ananias, and another Isaac Laquedem. Southey's *Curse of Kehama* does not follow any of the mediæval legends.

Jewel, John (1522-71), the Bishop of Salisbury, born at Berrynarbor, near Ilfracombe. He was educated at Barnstaple and Oxford, where he became a lecturer. He was one of the foremost churchmen of his age, and defended the English Church against Rome in his *Apologia Ecclesiæ Anglicanæ*, 1562. He also opposed the Puritans. He spent some time abroad during Mary's reign, but returned to England on the accession of Elizabeth and was made Bishop of Salisbury.

Jewellery (Old Fr. *jouel;* It. *gioja*, joy; Lat. *gaudia*), a term applied primarily to articles of personal decoration, made of gems or precious stones, and ornaments in gold and silver, as well as to the articles manufactured. There is generally a good deal of confusion between the words gem and jewel; the former properly belongs, however, to engraved stones (*see* GEM). As a purely decorative or ornamental adjunct to the person, J. has at all times been in use, and in the days prior to banking and money-lending, one of the most convenient methods of storing wealth was the accumulation of J. Gold is the first metal mentioned in history, and there are numerous finds of gold J. of prehistoric times. Then there are many examples of the jewels of the ancient Egyptians and Greeks. The J. of India brings down to modern times traditions of the earliest skilled craftsmanship of the world. As regards the production of J. as a modern art, there are important centres in all the larger cities of Europe, viz. Paris, Vienna, London, and Birmingham. The district of Clerkenwell in London is the centre of the higher-class J. trade in the United Kingdom. *See* Chaffer's *History of English Goldsmiths;* Décle, *Historique de la Bijouterie Française;* Emmanuel, *Diamonds and Precious Stones*, etc.

Jews, the early history of the Hebrews has been given in the article ISRAEL, and here a sketch will be given of the history of the Jewish race from the fall of Jerusalem in 70 A.D. until the present day. The fall of Jerusalem did not mean that Judæa was reduced. Guerilla warfare continued throughout the country, and so dogged and resolute was the resistance that it was only by massacre that quiet was obtained. The most violent methods were used by the Romans to reduce the J., and all J. throughout the Empire shared in the oppression. The discontent and desperation of the J. of Judæa, increased by the fact that Hadrian contemplated the establishment of a pagan city on the site of Jerusalem, led to a general revolt in 132 under Bar Coziba, or Bar Cochba, who was supported by the Rabbi Akiba. He kept up the standard of revolt for three years. At the end of this last revolt, Jerusalem was turned into a Roman colony under the name of Ælia Capitolina, and no J. was allowed even in its vicinity. The name of Jerusalem was henceforth to be obliterated from the mind of man. One of the most far-reaching effects of the Judeo-Roman wars, and of the subsequent destruction of the Jewish national centre, was the wide dispersion of that people, which has remained to this day one of its distinguishing features. The Babylonian J. had formed a separate community since the time of the Exile, and had spread far and wide over the domains of the Persian empire. These J. were at first of little importance from the religious point of view, being content to have all their difficulties settled for them by the council at Jerusalem, but their intellectual status was raised by the arrival of many learned rabbis at the time of the Dispersion. The Babylonian J. were headed by the 'Prince of the Captivity,' who claimed descent from the house of David, and lived in semi-regal state. It is probable that large numbers of J. had also settled in Egypt, and their commercial instinct had led to their congregating particularly at Alexandria. Here had arisen the philosophic and Hellenic Judaism of Philo. The J. had also travelled far and wide throughout the West, and everywhere they had met with a considerable measure of toleration. After the fall of Jerusalem, the J. were, for a time, left stunned under the catastrophe. The re-establishment and rally of Judaism is due largely to Rabban Jochanan ben Laccai, successor to Hillel, who, having escaped from the besieged city, obtained permission from the Emperor Vespasian to make Jamnia (Jabneh) his new centre. This place then became the seat of a great rabbinical academy, and of the reconstructed Sanhedrin. Here the study and development of the Torah received a fresh impetus, and the canon of Jewish sacred scriptures was finally settled by Rabbi Akiba.

For centuries the religious head of the Jewish people was the president of the Sanhedrin at Jamnia. The great product during the first two hundred years of Jewish scholarship is the Mishnah, a collection of the results of the study of the Torah in Palestine and Babylonia. This was incorporated three hundred years later in the Talmud (*q.v.*), still held in the greatest veneration by J. of the traditional school. It is sad to record that a period of oppression began for Judaism with the accession of Constantine, though at first the statutes directed against them aimed more at restriction than at persecution. After the division of the empire, the J. in Western Europe were deprived of the privileges granted them by previous emperors, and the canons of the Church councils of the period threw much light on the way in which they were regarded. They had a favourable period, however, under the Carlovingians. Meanwhile the Babylonian J. were developing steadily, and showed much intellectual activity. In 614, when Jerusalem fell into the hands of the Persians, the J. entered the city with the conquerors; but their triumph was short-lived. Everywhere, however, both in East and West we find them most active in commerce, engaged everywhere in ministering to the needs and luxuries of civilisation. The period from about 700 to 1100, though one of growing persecution, has been described as the 'golden age of Judaism,' and, during this period, one particular band of J. stand out in great prominence. The J. of Spain were, during that period, the representatives of the world's greatest culture. Here they flourished under the favourable rule of Islam. The rise of the Hispano-Jewish colleges dates from the arrival at Cordova of Moses ben Enoch, who had been ransomed from slavery by his co-religionists. Aided by the munificence of Chasdai ibn Spaprut, the schools of Cordova rapidly became flourishing centres of letters and of Talmudic study. In all departments of learning J. now became prominent. Menachem ben Saruk was an early student of Hebrew grammar, who was soon superseded by Jonah ibn Janach, the great master of Hebrew philology, who died in 1050. Some of the most beautiful of Hebrew poetry was also produced at this time. The foremost of the Payetanim or liturgical poets was Eleazar ben Kalir, whose poems have now a place in the service for certain holy days. But one of the greatest of Jewish poets was Solomon ibn Gebirol (1021-70), whose best-known poem, *Kether Malchuth* (The Crown of Kingdom), has been incorporated into the liturgy for the eve of the Day of Atonement. Judah Halevi (*c.* 1086-*c.* 1140) has been described as the greatest Hebrew poet since the time of David, and his poems are remarkable for depth of emotion and beauty of expression. Solomon ibn Gebirol was less famous as a poet than as a philosopher, for he was the first to introduce the Greek philosophy (as interpreted by the Arabians) to the Christians of the middle ages. His *Fons Vitæ* is a systematisation of the Greek and Arabic philosophy, which formed later an important source of scholasticism. Mediæval Judaism culminates in the figure of the intellectual giant Moses Maimonides (1135-1204), born at Cordova. On the taking of that city he was compelled to accept the faith of Islam and wandered to Palestine, where, being a physician by profession, he became attendant on the famous Saladin. Not only was he master of medicine but also of philosophy. He was the formulator of Jewish dogmatism. In his *Mishneh Torah* he made a systematic whole from the unwieldy mass of Jewish traditional law. In the *Moreh Nebuchim* (Guide to the Perplexed) he gave an exposition of the philosophy of Judaism. This work, from its rationalistic bias, caused violent dissensions in the Jewish communities, and ultimately the opponents of Maimonides invoked the aid of the Inquisition to suppress his works. Though the Spanish schools stand supreme during this period, similar institutions not destitute of learned men are to be found in France and Germany. The Franco-German scholars did not attain to the polish and versatility, as well as the philosophical breadth of view, which distinguished their Spanish brethren, but they possessed in an abundant measure moral earnestness and deep piety.

But during all this period, while Judaism ha
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clouds had b
treated as obnoxious strangers and unbelievers, at least the J. in the Carlovingian empire, and even in England and Christian Spain, found some justice and occasional favour as a useful mercantile class in a state of society in which religion and arms were the only tolerable occupations. Regarded by the rulers as a very valuable source of revenue, even as an indispensable adjunct of the population, and competing with none of them, the J. not only enjoyed the protection of the authorities, but also largely the passive good-will of their neighbours. The crusades were more

instrumental than anything else in changing the condition of the J. for the worse, accompanied, as they were, by wholesale massacres. The fury which had possessed the Crusaders and caused them to attack the Saracens of Europe rather than the Saracens of Asia, was felt in the different countries themselves. The J. had always been a separate community dwelling in the land, but not forming part of it, and this isolation led to the levelling of the most extravagant charges against them, which were eagerly believed by the credulous vulgar. Many of these charges, such as that of the slaughtering of children for ritual purposes, were, strangely enough, identical with those levelled against the Christians themselves during the first centuries of Christianity. Moreover, the wealth of the J. made them fit objects for pillage and spoliation. The J. were excluded from possession of the soil, and from every honourable profession or handicraft. They were thus driven to money-lending, and in this pursuit acquired a reputation for avarice and extortion only less than that of the sovereigns and nobles who made use of them. To England the J. came in large numbers with William the Conqueror, and settled in the large towns. In 1144

accusations continually recur in the years that follow, and the case of little St. Hugh of Lincoln, narrated by Chaucer in the *Prioresses Tale*, is well known. The most serious event in the history of Jewry in mediæval England was caused when a deputation of leading J. appeared at Westminster for the coronation of Richard I. in 1189. They were attacked by the mob, and a report spread that the king had ordered a general massacre. A very good attempt to carry out this supposed order was made in London and many other towns. The massacre was particularly great in York. Finally at the end of the 13th century a decree
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was equally and even more unfavourable. Only in Italy, Turkey, and Poland was any measure of toleration allowed them. In other countries they were perpetually subject to extortion
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they might accumulate more material for plunder. It is hardly necessary to speak of Spain during the latter half of the middle ages. The atrocity of the Inquisition in that country is a by-word. These persecutions in Spain caused many of the Spanish J. to make an outward profession of Christianity, and if we may judge from the words of Torquemada, grand inquisitor during the latter half of the 15th century, many of these 'Maranos' held high positions in the priesthood. Finally it was resolved to expel all J. from the Spanish domains, and in 1492 some 200,000 Spanish J. left their homes and the graves of their forefathers. Some went to Portugal, some to Southern France and Italy. Others sought a refuge in Mohammedan Turkey, where they were warmly welcomed by the Sultan Bajazet II. During this period of oppression the learning of the previous age turned to mysticism and the intricacies of the Talmud. To the mystic belongs the Caballah, that strange medley of Jewish religious philosophy and spiritual quackery. To the same trend of thought may be ascribed the rise of many pseudo-Messiahs such as David Reubeni and Solomon Molcho (1540). More important still was the Turkish Jew, Sabbathai Zevi, who assumed the rôle of the Messiah in 1666, and
ned by thousands of en-
The Reformation did not
oduce any change in the
the Christian states to-
Jewish subjects. But the spread of the New Learning led to an intelligent interest being taken in the productions of Jewish scholars, and a landmark in the rise of tolerance is marked by the publication in 1706-11 of Jacob Christian Basnage's *History and Religion of the Jews since Christ to the present day*. The 17th century also saw the rise of the famous Benedict Spinoza (1632-77), one of the greatest men that Israel has produced. But centuries of oppression had done its work, and by the middle of the 18th century, when external affairs were about to take a turn for the better, the intellectual condition of the J. had sunk to a low ebb. Their religion still remained, but it had sunk to a mechanical routine in mean surroundings. As a whole, the J. remained a class of social pariahs, petty traders, or artisans despised by all. But, during the years that have passed since then, a marvellous evolution has been seen. As the J. have become enfranchised, they have produced a host of men of distinction in all walks of life. Especially has this progress been seen in the field of politics. In this connection we can deal only with England. In 1723 the words 'On the true faith of a Chris-

tian ' were removed from the Jewish oaths. In 1753 a Jewish Naturalisation Bill was passed, but such was its unpopularity that it was repealed in the following year. In 1833 began a series of unsuccessful attempts to remove Jewish disabilities, the Bills being invariably thrown out by the House of Lords. A compromise, by which Baron de Rothschild, who had been elected for the city of London, was allowed to sit in parliament, was arrived at in 1858, and in 1860 the parliamentary oath for both Houses was permanently amended. Jewish problems at the present day are many, so many that it is impossible to discuss them here. They may easily be studied, however, in current literature, where they are now receiving free consideration along with other important social and religious problems of the day. *See* G. F. Abbott's *Israel in Europe;* M. Friedlander's *The Jewish Religion;* P. Goodman's *The Synagogue and the Church;* M. Joseph's *Judaism as Creed and Life;* C. G. Montefiore's *Liberal Judaism;* and *The Jewish Encyclopædia. See* ZIONIST MOVEMENT.

Jew's Ear, or *Hirneola Auricula-Judæ,* a fungus shaped somewhat like an ear. It is found chiefly on elders, and was given its name from a legend that Judas hanged himself on an elder tree.

Jew's Harp, or Trump, a small musical instrument, consisting of an elastic vibrating steel tongue riveted at one end to a frame of brass or iron. The narrow free end is at right angles to the vibrating piece. The instrument is held between the teeth, while the metal tongue is twitched by the forefinger. Sound is increased in intensity by the breath, and altered in pitch by the shape of the mouth's cavity. See *Notes and Queries,* Oct. 23, 1897; Wheatstone, *Quarterly Journal of Science, Literature, and Art,* 1828; Grove, *Dict. of Music,* ii.

Jew' ... a speci ... and in ... an annual, growing to a height of from 12 to 18 ft., and yields a very valuable fibre.

Jew's Thorn, *see* PALIURUS.

Jex-Blake, Sophia (1840-1912), born in Sussex, and was sister to Thomas Jex-Blake, D.D. She was mathematical tutor of Queen's College, London, from 1858-61, and in 1866 began to study medicine in Boston, U.S.A. She returned to England in 1868, and matriculated in the medical faculty of the University of Edinburgh in 1869. In 1874 she founded the London School of Medicine for Women, and in 1878 opened a Dispensary for Women and Children in Edinburgh, and a Cottage Hospital in 1885. In 1886 she founded the Edinburgh School of Medicine for Women. She published: *American Schools and Colleges; Medical Women; Care of Infants;* and *Puerperal Fever.*

Jeypore, *see* JAIPUR.

Jezreel, a city of Canaan situated on a spur of the Mt. Gilboa range, and 11 m. distant from Nazareth. It was the well-known capital of the Israelite monarch Ahab; here it was that Ahab coveted Naboth's vineyard, and here the Queen Jezebel had Naboth murdered. Both king and queen suffered a shameful death as foretold by Elijah in consequence of their sin. The modern village Zer'in, built of stone, stands on a bare and rocky knoll, where the remains of ancient cisterns and old sarcophagi are still seen.

Jhabua: 1. A state in the Bhopawar Agency, Central India, has an area of 1336 sq. m. It is mountainous and little cultivated; opium is the most valuable product. Manganese is obtained in small quantities. Pop. 80,800. 2. A tn., cap. of above state, 80 m. W. of Indore, has important trade in opium. Pop. 3400.

Jhalawar, a state in S.E. Rajputana, India, has an area of 3043 sq. m. The chief crops are maize, cotton, and wheat. The exports are oil seeds, opium, brass ware, and cotton. The capital is Jhalrapatan, an ancient city of archæological interest. Pop. 345,000.

Jhang: 1. A dist. in the Multan div. of the Punjab, has an area of 4000 sq. m., nearly all of which is under cultivation. Owing to the construction of the Chenab and Jhelum canals the soil is well irrigated, and wheat, millet, oil seed, and maize are grown. Pop. 380,000. 2. A tn., forms a joint municipality with Maghiana, 2 m. away, and is the chief town of the above district. It manufs. brass ware, soap, and leather, and has considerable trade in grain. Pop. 24,382.

Jhansi, a city and dist. of British India in the United Provinces. The city is 60 m. distant from Gwalior, and is the central point of the Indian Midland Railway, from which four lines diverge to Agra, Cawnpore, Allahabad, and Bhopal. The district of J. is included in the country of British Bundelkhand, and is watered by the three important rivers, Pahúj, Betwa, and Dhasán. The fort and town of J. were taken by the British in 1853. The city was the scene of rebellion and massacre in the Mutiny of 1857, but was regained by the British in 1858. Area of district (including Lalitpur) 3630 sq. m. Pop. 617,000.

Jhelum, a tn. on the Jhelum R.; is the headquarters of the district of Jhelum, Punjab, India. It is the distributing centre for most of the trade of the district. Timber from Kashmir forests is collected here, and boat building is carried on. Pop. 14,950.

Jhelum, The, or **Jehlam**, the ancient Hydaspes, is one of the five rivers of the Punjab in India. It rises in the hills of the State of Kashmir, and is navigable for about 70 m. in that state. It flows through Walur Lake, thence [illegible] clad Himalayas. [illegible] from these mountains [illegible] mula Pass, it again [illegible] About 250 m. [illegible] enters the plain [illegible] after another 200 m. joins the Chenab, also one of the five rivers at Timmu.

Jhering, Rudolf von (1818-92), a German jurist, born at Aurich in E. Friesland. He was educated at the University of Heidelberg, but also visited Göttingen and Berlin. In 1845 he was a professor at Basel, in 1840 at Rostock, in 1849 at Kiel, and in 1851 at Giessen. He set forth a fresh view of the Roman law, adapting the old as the basis for a new system of jurisprudence. He gained a great reputation, and in 1868 was offered the chair of Roman Law at Vienna, which he held until 1872, when he went to Göttingen as professor. His chief works are: *Geist der römischen Rechts auf den verschiedenen Stufen seiner Entwickelung*, 1852-65; *Der Kampf ums Recht*, 1872 (English trans. 1884); *Zweck im Recht*, 1877-83; *J[illegible]* 1870.

Jhir
Punja
sq. m. The chief industries are manufs. of silver ornaments, leather, and pottery. 2. A tn., 75 m. N.W. of Delhi; contains many ancient temples and places of pilgrimage.

Jib (etymology uncertain, only found in English, probably connected with *gibbet*), the foremost sail of a ship. It is triangular in shape, and stretches from the outer end of the jib-boom, which is the spar run out from the termination of the bowsprit, to the foretopmast-head. This is in the case of larger vessels; in smaller craft which have no jib-boom the J. extends from the bowsprit to the masthead. A 'flying J.' is a sail set in addition to the J., and lashed to the 'flying jib-boom,' which is an extension of the 'jib-boom.' A 'middle J.' is a sail sometimes rigged in addition to the J. and flying J., extending from the end of the jib-boom when the J. is half-way down it. As many as six Js. may be carried by large vessels, the outermost being called the 'jib of jibs.'

Jibuti, Jibouti, or Djiboutil, a French port on the Gulf of Aden, S. of Tajura Bay; has a good harbour, and takes much of the traffic for Abyssinia. A railway connects it with Harrar. Pop. 7000.

Jicarillas, a tribe of N. American Indians which inhabit the northern border of New Mexico. They used to be very formidable, but are now [illegible]nd rapidly decreasing in [illegible]hey make excellent basket

JEDDAH.

. or **Gique**, the name given [illegible]ance tune which is usually compound time, *i.e.* [illegible] or ⅛. It has, however, been used by Bach and Handel to finish a suite, and then simple time is sometimes found. The word is also used for the dance itself, and the idea of the jerking movement has given rise to many applications of 'jig.'

Jigger, *see* CHIGOE.

Jihun, *see* AMU DARIA.

Jijona, a tn. in the prov. of Alicante, Spain, is 18 m. N.W. of Alicante. A large quantity of fruit and honey is obtained from the district. It also manufs. shoes. Pop. 6900.

Jilolo, or Halmahera, an island of the Malay Archipelago between Celebes and Ceram; has an area of 6500 sq. m. It is very irregular and mountainous. The soil is very fertile, the climate tropical, and the chief products are dammar, sago, spices, cocoanuts, and fruits. It belongs to Holland. The chief towns are Gelolo, Galela, and Patani. Pop. 120,000.

Jimena, or Ximena, a tn. in Andalusia, Spain, is 14 m. from Jaen. Its trade is chiefly in the district produce, which includes grain, olives, and wine. Pop. 3000.

Jimena de la Frontera, a tn. in the prov. of Cadiz, Spain, is 20 m. N.W. of Gibraltar. It has a fortified Moorish castle, and manufs. leather and rugs. Pop. 8000.

Jingo and Jingoism. The derivation of Jingo is uncertain, but in its modern application was borrowed from the lines of a music-hall song by W. Hunt, very popular in 1878, the chorus of which ran—

'We don't want to fight, but by Jingo! if we do,
We've got the ships, we've got the men, and got the money too.'

The term J. was at that time used as a nickname for those who supported Beaconsfield's anti-Russian policy of sending ships to the East to assist the Turks against the Russians. From this the term has come to mean any person who advocates a bellicose

or *chauvinist* policy, and Jingoism, therefore, denotes the policy of the Jingoes.

Jinn, or **Djinn**, the name of a class of spirits in Arabian mythology. They were created 2000 years ago, and the greatest of them was Eblis who was formed out of smokeless fire. There are both good and bad J., and among the latter the five sons of Eblis may be mentioned, besides the Ghoul, which appears in human form, the Sealáh, found in forests, the Delhán, living in islands, and the Shikk, shaped like a human being halved lengthwise. The J. assume various shapes, and live chiefly on the mountains of Káf, but their evil influence can be averted by talismans, etc.

Jinotega, a tn. in Nicaragua, Central America, 13 m. N.W. of Matagalpa, is the capital of Jinotega dept. Large quantities of coffee are grown in the district. Pop. 12,500.

Jinotepe, a tn. in Nicaragua, Central America, cap. of the dept. Carazo, is 16 m. S.W. of Granada. It is the centre of a sugar-producing district. Pop. 7500.

Jiron, a tn. in the dept. of Santander, Colombia, 175 m. N.E. of Bogotá, has important gold mines. It has also trade in Panama hats and tobacco. Pop. 11,000.

Jitomir, or **Zhitomir**, a tn. in Russia, on the Teterev, 80 m. S.W. of Kiev, is the capital of the government of Volhynia. It is the seat of a Greek archbishop, a Roman Catholic bishop, and is the centre of many Jewish organisations. It manufs. cloth, shoes, gloves, tobacco, and soap, and carries on trade in corn, hides, and timber. Pop. 75,000 nearly one half Jews.

Jivaros, or **Jeveros**, a tribe of S. American Indians found in the forests of the Upper Marañon, Peru. They are brave and warlike, faithful and noble, and though they have frequent tribal wars, always unite against a common enemy. They have fixed homes, and have a custom of mummifying human heads, probably for religious purposes. They were reduced by the Spaniards after the conquest of Peru, but won back their liberty in 1599 by a general insurrection.

Jizak, a fortified tn. in the prov. of Syr Daria, Russian Turkestan, is 60 m. N.E. of Samarkand. It is on one of the main caravan routes. In 1868, it was a centre of activity, when Russia conquered Bokhara. Pop. 22,000.

Jmudes, or **Zhmudes**, a name for the Lithuanians who dwell on the shores of the Baltic. The Russians and Poles so designate them to distinguish them from the Lithuanians proper.

Joab (' Jehovah is a father '), the son of Zeruiah, was David's nephew and general. The first mention of him occurs in 2 Sam. ii. 12 ff. in connection with the campaign against Abner and Ishbaal, so it is uncertain whether he was with David during his early history. He was promoted to the position of general in the army after the capture of Zion, and we later find him as captain ' over all the host of Israel ' (2 Sam. xx. 23), and on terms of great intimacy with the king. He occupies a prominent place in the rebellion of Absalom and the revolt of Sheba. In 1 Kings i. 7 ff. we read how, at the end of David's life, J. took part in Adonijah's attempt to gain the crown and how he met his death on the accession of Solomon.

Joachim, Joseph (1831-1907), born near Pressburg, virtuoso violinist, conductor and composer. As a boy prodigy he visited Vienna (1841) and Leipzig (1843), where his talent won Mendelssohn's [illegible] don (1844). At [illegible] became leader [illegible] band at Weimar; four years later he was appointed to the court of Hanover, and for the next thirteen years continued as director of the royal concerts. From 1862 until his death he appeared regularly every year in London, chiefly at the St. James' Hall and the Crystal Palace, where he became known pre-eminently as the untiring apostle of Brahms. In 1868 he began his official career as a teacher at the Berlin Royal Academy of Arts, and in the following year founded the Joachim quartet, famous for their wonderful playing of Brahms' chamber music. As a composer Joachim was influenced chiefly by Schumann; his finest work is his Op. 11, Violin Concerto in A major, which undoubtedly ranks as a masterpiece.

[illegible] in Bohemia, Carlsbad, gave or *Joachimsthaler*, first minted here (1518). In the 16th century it was a mining centre, silver, nickel, and zinc were found. It now carries on manufs. of gloves, paper, lace, and cigars. Pop. 7000.

Joan (1328-85), the ' Fair Maid of Kent,' was the daughter of Edmund of Woodstock, Earl of Kent. She became Countess of Kent and Lady Wake of Liddell in her own right in 1352, and in 1361 married Edward the Black Prince, with whom she lived in Aquitaine from 1362 to 1371. She protected John of Gaunt and Henry Percy in 1377, when they were fleeing from the infuriated London populace, and in 1385 was successful in healing the breach between her son Richard II. and John of Gaunt.

Joan, Pope, a mythical [illegible] long believed to have filled [illegible] chair as John VIII. about [illegible] was said to have been the daughter of an English missionary, and was educated at Cologne. She fell in love with a monk with whom she went to Athens in male attire, but returned to Rome on his death. Here she opened a school, and entered the priesthood, eventually being elected pope, but died during a papal procession. This tale was first overthrown by Blondel in 1647, who published an *Eclaircissement de la question*, but was finally and completely refuted by Döllinger in his *Papstfabeln des Mittelallers*, 1863 (English trans. 1872).

Joan I. of Naples (1327-82), the daughter of Charles, Duke of Calabria, became queen in succession to her grandfather, King Robert, in 1343. She was first married to Andrew of Hungary, but when he was assassinated at Aversa in 1345, became the wife of Philip, Prince of Taranto. She took refuge in Provence when an inquiry was made concerning the murder of Andrew of Hungary, and purchased her pardon from Pope Clement VI. by selling to him the town of Avignon. She returned to Naples in 1362 and married James, King of Majorca, and later Otto of Brunswick, Prince of Taranto. She had no sons and so made Louis I., Duke of Anjou, her heir, with the result that Charles, Duke of Durazzo, who regarded himself as the rightful future King of Naples, seized the city. J. was captured and executed at Aversa.

Joan II. of Naples (1370-1435), the daughter of Charles of Durazzo, King of Naples. She succeeded her brother Ladislas in 1414, and was at that time the widow of William of Austria. She next married Jacques de Bourbon, Count of La Marche, but at the same time chose Count Pandolfello as her lover. He was arrested and executed by her husband, she herself being condemned to religious seclusion. But when she regained her liberty she in her turn had Jacques imprisoned. Her whole reign was troublous, and on her death the throne passed to Alfonso of Aragon, in spite of her attempt to make Louis of Anjou her heir.

J[illegible]
a[illegible]
Sp[illegible]
la[illegible]
He[illegible]
best works are at Valencia. All his subjects were religious, and are marked by a beauty of colour and minuteness of finish.

Joannes Damascenus, or Chrysor- [illegible]-754), a theologian, hymn- one of the later Greek n at Damascus. He was a member of a Christian family of distinction and was educated by the Italian monk Cosmas. He defended the worship of images in a controversy with Leo the Isaurian, but spent his later years in the monastery of Santa Saba, near Jerusalem. Here he wrote his hymns and other works, which inclu[illegible] *Christian Theo* Jacobite and [illegible] disputations against superstitions; homilies; *Barlaam and Joasaph*, a disguised version of the life of Buddha; *Fons Scientiæ;* and *De Imaginibus.* But he is best remembered by his hymns, some of which have been translated into English by Neale. The first good edition of his works was that of Le Quien, 1712; this was reprinted in 1748.

Joan of Arc (Fr. *Jeanne d'Arc*), (1412-31), the Maid of Orleans, born in the vil[illegible] of Domrémy near Vaucouleurs, on the borders of Champagne, on Jan. 6, of humble parentage. Her extraordinary character and conduct make her one of the most striking figures in history. From her earliest years, she was imbued with an ardent faith and love of religion, and her enthusiasm and habits of solitary meditation explain her visions and the angelic voices she professed to hear. She loved to be alone and brooded in her waking dreams over the legends of the saints, until they became to her real personalities. Gradually there came to grow up in her heart the conviction that she had been chosen by God to do a special work of deliverance for her country. She asserted she was commanded by a vision to conduct Charles VI., King of France, to Rheims, to be crowned in 1429, and presented herself before the governor of Vaucouleurs. She was examined by the most intelligent men and counsellors, and at length was given permission to hasten to the deliverance of Orleans, D'Aulon being appointed her constant attendant and brother-in-arms. She donned male dress and a suit of white armour, and mounted on a black charger, put herself at the head of an army of 6000 men, and advanced to aid Dunois in the siege of Orleans. She entered the city in April 1429, and forced the English to raise the siege and retreat after fourteen days' fighting, and Charles entered Rheims and was crowned in July of the same year. Enemies soon multiplied around her, and she was at length captured by the Burgundians and sold to the English. She was imprisoned at Rouen, condemned as a heretic, and finally burned at the

stake. *See* Andrew Lang, *The Maid of France*, and *Life* by Mark Twain.

Joash, or Jehoash: 1. The son of Ahaziah and King of Judah. On Ahaziah's death the throne was usurped by his wife Athaliah, who attempted to exterminate all the princes of the house of David. But J. was *hidden in the Temple* by Jehoiada, the high-priest, who later placed him on the throne at the age of seven and slew Athaliah. J. at first ruled well, and did much to restore the Temple, but later relapsed into the Baal-worship of his step-mother, Athaliah. He met his death at the hands of an assassin. 2. The son of Jehoahaz, King of Israel, third in the dynasty of Jehu. By three great victories over Ben-hadad, foretold by Elisha, he regained the lands which Hazael had conquered. Provoked by Amaziah's taunts, he then engaged in war with Judah, and reduced it to dependence on Israel. He died about 783 B.C.

Job, Book of (Hebrew *'Iyyōb*), one of the most remarkable books of the O.T., belonging to the section known as the Hagiographa. The book in its present form divides naturally into five parts: (1) The introduction (chs. i. and ii.) first shows us Job as a prosperous Edomite Emir, whose prosperity is equalled by his godliness and uprightness. At a council in Heaven we hear Jehovah express his approval of Job and also how the Adversary is allowed to torment him in order that his perfect righteousness may be made manifest. In spite of the persuasions of his wife, Job maintains his integrity, but on the arrival of three neighbouring Emirs, his friends, to condole with him, he breaks into a passionate lamentation. (2) The discussion between Job and his three friends, Bildad, Zophar, and Eliphaz (chs. iii.-xxxiii.). This contains three cycles of dialogues, each dialogue consisting of three speeches by Job in answer to speeches by each of the three friends in turn. In the last cycle, however, Zophar's silence shows that Job has ended the discussion. The view advanced by Job's friends is that suffering is inevitably and invariably the result of sin, and that Job's case cannot be an exception. Job, in the consciousness of his innocence, is therefore almost driven to deny the justice of God. He is, however, saved from this, and ends by concluding that sin and suffering in the individual are not necessarily connected, and by adjuring God to reveal the reason why he is thus afflicted. (3) Introduces the speeches of a fresh speaker (chs. xxxiv.-xxxvii.), a young man named Elihu, who had heard the preceding discourses. He expresses his utter abhorrence of Job's utterance against God, and lays stress on the disciplinary value of sin, a point which had already been slightly noticed by the three friends. (4) The reply of Jehovah out of the tempest (chs. xxxviii.-xli.). It is a series of marvellous poetic pictures of the mysteries of the universe, so presented as to humble Job, and draw from him a confession of his utter ignorance and worthlessness before his Creator. (5) The conclusion (ch. xlii.) tells how, having thus humbled himself, Job is restored to double the prosperity he had enjoyed before. The problem with which the B. of J. deals is that greatest of all problems, the mystery of suffering, which must have engrossed the attention of the Jews in the early post-exilic period to which this work must be referred. The text is, unfortunately, in a very corrupt condition, but there is a fairly regular sequence of thought. The Elihu passages are a later interpolation. There is no reason to believe that the story is historical, but it is probably founded upon a traditional legend. It doubtless owes, much, however, to the poetic genius of its compiler. A vast amount of literature has grown up around it, and it is only possible to mention a few of the critics that have dealt with the subject. *See* Davidson's *Job* (Camb. Bible for Schools, 1884), and works by Cheyne (1897), Ley (1899), Beer (1895-98), Budde (1896), and Duhm (1897).

Jobber, a professional dealer on the Stock Exchange whose business it is to 'make a market' for a special line of securities. He is precluded by the Rules of the Stock Exchange from acting as a broker, but can make bargains direct with members of the public provided he does not do so in the House. He can buy securities with the intention of taking delivery, and can sell with the intention of delivering whether he has the shares or intends to obtain them subsequently. Generally speaking a J.'s business is to sell or buy immediately what he has bought or sold respectively. Js. quote securities at two prices, the higher at which they will sell, the lower at which they will buy. The difference is called the 'turn of the market.' When there is a free market, *i.e.* where the securities are being freely bought and sold, the J. contents himself with a smaller 'turn,' or closer quotation, because he knows he will have ample opportunities of getting his profits by converse bargains. Members may not act both as brokers and Js. at the same time, and on their annual application for re-election must state in which capacity they intend to act.

See Stutfield's *Rules of the Stock Exchange;* Schwabe and Branson, *On the Law of the Stock Exchange.*

Job's Tears, a popular name of the [illegible] nown techni- The fruit re- grass occurs in India.

Jocelin, or **Joscelin** (*fl.* 1200), a Cistercian monk, was the author of *The Life and Miracles of Saint Waldhen of Melrose; A Life of David, King of Scotland;* and *A Life of Saint Kentigern; A Latin Narrative of the Life and Miracles of St. Patrick.* This work was first printed in 1624, and an English version by E. L. Swift was published at Dublin in 1809.

Jocelin de Brakelonde (*d. c.* 1213), a Benedictine monk who flourished at the end of the 12th century. He was a native of Bury St. Edmunds, and became a member of the convent in 1173. He wrote a chronicle of the abbey from 1173-1202, in which he gives a minute account of the Abbot Samson and of his reforms, as well as of the monastic life of the time. J.'s style is clear and pleasing, and it was his life-like picture of Samson which inspired Carlyle to write his essay on the abbot in *Past and Present.*

Jockey Club, *see* HORSE-RACING.

Jockey Club Stakes, *see* RACE MEETINGS.

Jode, Pieter de (1570-1634), the Elder, an engraver, born at Antwerp. He studied at first under Hendrik Goltzius, but afterwards went to Italy and engraved several plates from the works of the great masters. In 1601 he returned to Antwerp and won great distinction by producing various prints after the principal Flemish painters.

Jode, Pieter de (1606-74), the Younger, the son of the above, was taught by his father, whom he surpassed in taste and facility. His best works are his portraits, several of which he engraved after Van Dyck.

Jodelle, Etienne (1532-73), a French poet, born in Paris. He aimed at substituting classical drama for the morality and mystery plays that then occupied the French stage. He produced his first play, *Cléopâtre captive*, in 1552. This was represented before the court, J. himself playing the title-rôle, and is famous for being the starting-point of French classical tragedy. He also wrote two other plays, *Eugène*, a comedy, and *Dido*, a tragedy which follows Virgil's narrative.

Jodeln, or **Jodel**, a peculiar manner of singing which consists in changing from the chest voice to the falsetto in harmonic progressions. It is much practised by the Tyrolese and Swiss in singing their national melodies.

Jodhpur, or **Marwar** (the region of death): 1. The largest state of Rajputana, British India, has an area of 35,000 sq. m. It is generally sterile and covered with sandhills. The Aravalli Hills form the E. boundary. The Luni is the only important river. There are a few marshes which dry up in the hot weather and yield crops of wheat and grain, and at Sambhar is a famous salt lake. Marble is obtained from quarries at Makrana. The chief exports are salt, hides, marble, brass and lacquer ware, and cotton. Pop. 2,057,553. 2. A tn., cap. of above state, 98 m. W. of Ajmere, contains a magnificent fort on a rock 400 ft. above the surrounding plain, guarding the Maharajah's palace. The manufs. are brass and iron ware, and cotton. Pop. 60,437.

Joel, the second of the twelve minor prophets, is spoken of in the heading to his book as the son of Pethuel, or, as many important MSS. read, of Bethuel. His prophecies contain no clear references to contemporaneous events, nor are the sins for which he rebukes the Jews sufficiently specific to give any clue to his date. Hence there has been, and is, wide difference of opinion as to the time at which he wrote. The view now generally held is that he prophesied in the reign of Joash, King of Judah, though certain important critics hold that he was post-exilic. The Book of Joel consists of three prophecies, all closely connected together. The first two chapters tell of a great plague of locusts which had afflicted the land. Many have taken this figuratively as alluding to the armies of Assyria. Then comes the prophecy of the outpouring of the Holy Ghost (ii. 28), which is followed by the great judgment of Jehovah over the enemies of Judæa in the valley of Jehoshaphat. See *Commentaries* by Credner, 1831: Wünsche, 1872; Grätz, 1873, and Merx's great work on the subject, *Die Prophetie des Joels*, 1879.

Jœuf, a tn. in the arron. of Briey, in the dept. Meurthe-et-Moselle, France. Pop. about 2350.

Johanna, or **Anjouan**, one of the Comoro Islands, in the Mozambique Channel. It is the central one of the group, and is 26 m. long and 18 m. wide. In the N. stands Johanna, a walled town and the residence of the sultan of the island.

Johannesburg, the chief tn. and mining centre of the Transvaal, S. Africa, Heidelberg dist., 30 m. S.S.W. of Pretoria. Founded by the Uitlanders, 1886, about 5500 ft. above sea-level, it grew quickly through its position among the Witwatersrand gold-fields. There are now railway connections with Pretoria, Cape

Town, Durban, Port Elizabeth, and other parts. The water supply is rather uncertain, and the drought of 1889 led to severe famine. The climate is healthy, but the sanitary conditions are poor, and combined with the winter dust-storms, cause fevers and pneumonia. There are fine government offices and buildings, including the Stock Exchange and Transvaal University College. It was occupied by the British under Lord Roberts in 1900, and the Boer fortress is now dismantled. Bricks and tobacco are manufactured, and printing, brewing, stock-rearing, and foundry work carried on. Pop. 120,411.

Johanngeorgenstadt, a tn. of Saxony, Germany. It is situated about 15 m. N.N.W. of Karlsbad, and possesses iron and bismuth mines. Pop. 6230.

Johannisberg, a vil. of the Rheingau, Germany, near the R. Rhine. It is famous on account of its castle and vineyards, the products of the latter being used to make the well-known Johannisberger wines. Pop. about 1300.

John, Saint, the Apostle, was the son of Zebedee, and the brother of James. The narrative of the call of James and John, who with St. Peter form the inner circle of the apostolic band, is narrated in all three synoptic gospels. St. J. is also generally identified (1) with the companion of St. Andrew mentioned in the Fourth Gospel who, from being a disciple of John the Baptist, became a follower of Jesus; (2) with the 'other disciple,' spoken of also as 'the disciple whom Jesus loved' mentioned in the Fourth Gospel. St. J. took part in many incidents mentioned in the synoptic gospels, but three stand out prominently as throwing light on his character, viz., the request of the brothers (Mark x. 35-41), the rebuke given to the man casting out devils in the name of Jesus (Mark ix. 38), and the request that fire should be called down from heaven to destroy the Samaritan village (Luke ix. 54). St. J. appears in the early chapters of the Acts, chiefly as the companion of St. Peter, while he is spoken of in Gal. ii. 9 as one of the pillars of the church at Jerusalem. Tradition from the time of Irenæus (c. 175) asserts that he died of old age, though this has been questioned on the ground that Georgious Hamartolos (9th century) says on the authority of Papias, whose works are now lost, that he suffered martyrdom from the Jews.

John, Epistles of, three canonical epistles of which the authorship is generally ascribed to the Apostle John. It is necessary, however, to consider the First Epistle apart from the Second and Third. The great majority of critics, including Eichhorn, Credner, Lücke, Ewald, and Huther, are agreed that the writer of the Fourth G[illegible]
First E[illegible]
ACCORD '
critical '
further probable that the Epistle was written after the Gospel. The aim of the Epistle is primarily to build up the writer's 'children' in the true Christian life, but to do this he has to be polemical to some extent. There has been much discussion as to what enemies his words are directed against but they may be classed generally as Gnostics, whose errors of life and conduct were as serious dangers to the flock as were their heretical doctrines. It is an ancient tradition that the Epistle was directed partially against Cerinthus. The language of all the epistles shows clearly that they are not 'general,' but are addressed to a particular church or group of churches whose members were well-known to the writer. This is particularly so in the case of the First Epistle. The question of the authorship of the two latter Epistles is more difficult. Their authenticity was much disputed before the formation of the canon, and there is no agreement as to their author. Eusebius and Jerome ascribe them to John the Presbyter. It is now generally agreed that the 'lady' to whom the Second Epistle is addressed stands for the Church itself. *See* Commentaries by Plummer, Westcott, and especially Brooke's 'Johannine Epistles' in the *International Critical Commentary*, 1912.

John, The Gospel According to, now more usually termed the Fourth Gospel, stands in striking contrast to the three canonical gospels which precede it, and which are termed the synoptic gospels as giving something of a synopsis of the life of the Saviour. The contrast is struck in the opening passage of the Fourth Gospel. The synoptists, except St. Mark, have commenced with elaborate genealogies which trace the earthly ancestry of the Messias. St. Mark commences immediately with the preface to our Lord's ministry. It has often been remarked, though, how St. John's Gospel begins with the same words as the Book of Genesis—'In the beginning.' Thus his Gospel opens with an elaborate philosophic and metaphysical statement as to the *eternal* life of the incarnate Word. The contrast is not lessened as one proceeds. Everywhere the abstract takes precedence of the concrete. In the words of Dr. Armitage Robinson, 'Great abstract conceptions are presented in rapid succession: life, light,

witness, flesh, glory, grace, truth. Each of these in turn is set in some relation to the Word who was in the beginning with God.' The tone of the Fourth Gospel is throughout rather that of a dogmatic treatise than a biographical sketch. It is important to notice, moreover, that throughout

in connection with John the Baptist. Therefore, the most vital points in the actual history of Jesus are here omitted; perhaps the most striking omissions being the Baptism and the institution of the Eucharist. Finally, it may be said that St. John's Gospel is concerned primarily with the spiritual and the eternal. The earthly life of Christ is considered not as an isolated event but in its connection with his life as God and with the whole of human experience. The incidents narrated are chosen solely for the doctrines that can be drawn from them, and Christ's words are not given as spoken, but as matured and interpreted in the mind of the writer. The question of the authorship of St. John's Gospel was a problem of the early Church, and it has also been a most important critical problem during the last century. Modern criticism now shows a tendency to return to the traditional view and ascribe it to St. John the Apostle, or possibly to John the Presbyter spoken of by Papias. The extreme anti-traditional view of the Tübingen school made the author a Gentile Christian, and placed the work in the middle of the 2nd century, Baur suggests 160-170 A.D., Pfleiderer 140 A.D., Keim 130 A.D. Dr. Harnack, however, in his recently published *Chronology of Early Christian Literature* places it between 80 and 110 A.D. According to this chronology, the date presents no obstacle to the authorship by St. John the Apostle, and much internal evidence is adduced in support of the traditional view that it was written by St. John the Apostle in his old age. The traditional view well explains the peculiar characteristics of the Gospel, and the conditions under which he would have written are thus excellently expressed by Dr. Armitage Robinson: 'The old disciple needs no documents to compile as others might compile a laboured history. The whole is present in his memory, shaped by years c the experie ows the Cl he knew Him in Galilee or Jerusalem half a century before. He knows who and what He is, as he hardly guessed then. And the fuller knowledge has revealed the inward significance of events as none knew it, save the Master, at the time. He cannot speak or write as if he were a young man, wondering from day to day whether this were the Christ. He cannot even speak as Peter may have spoken to Mark some thirty years before, when Jerusalem still stood, and the end of an age had not come. He can no longer sever between the fact and the truth revealed by the fact: interpretation is blended with event. He knows that he has the mind of Christ. He will say what he now sees in the light (The suppos that John the Jews is not a serious objection to this view, for its authenticity is discredited by its late appearance, by

son's *Study of the Gospels*, 1906; F. C. Burkitt's *Gospel History and its Transmission*; Westcott's *Gospel of St. John*, 1882, also works by Plummer (1882), Sadler (1883), etc.

John, St., of Nepomuk (c. 1330-93), the patron saint of Bohemia, a native of Nepomuk, or Pomuk, near Pilsen. Educated at the University of Prague he soon entered the church, and after a time became confessor to Sophia, the wife of Wenceslaus IV. When he refused to divulge to her husband some secret he had heard from the queen in the confessional, he was tortured, and finally flung into the Moldau. His canonisation dates from 1729.

John, the name of twenty-three popes:

John I. (523-26), a native of Tuscany, succeeded Hormisdas and was a friend of Boethius. Sent to Constantinople by Theodoric to obtain toleration for Arians, but on his return was imprisoned by the king who was dissatisfied with the mission. Died in captivity.

John II. (*Mercurius*) (532-35), a native of Rome and succeeded Boniface II.

John III. (560-73), a native of The his time.

John IV. (640-42), a native of Dalmatia, succeeded Severinus. Noted for his zeal and orthodoxy, and condemned the Monothelite doctrine.

John V. (685-86), a native of Antioch, successor to Benedict II. The first of several popes of Eastern birth.

John VI. (701-5), of Greek birth, succeeded Sergius I. Appealed to in the conflict between St. Wilfrid of York and the see of Canterbury, decided in the favour of the former.

John VII. (705-7), a native of Greece, successor to the foregoing.

John VIII. (872-82), a native of Rome, succeeded Adrian II. Saracens ravaged Rome during his pontificate. He supported Charles the Bold's claim to the empire, and crowned him in 875. *See* De Montour, *Histoire des souverains Pontifes.*

John IX. (898-900), a Benedictine, succeeded Theodore II. He accomplished little, and his position was very insecure.

John X. (914-28), a native of Romagna, succeeded Lando. Placed himself at the head of an army and drove Saracens from Italy. Said to have been murdered.

John XI. (931-36), elected while under age, and governed through influence of his mother, Marozia.

John XII. (*Octavian*) (955-64), succeeded Agapetus II. Crowned Otho I., Emperor of Germany and King of Italy.

John XIII. (965-72), a native of Rome, crowned Otho II. as emperor.

John XIV. (938-84), a native of Pavia, succeeded Benedict VII. Deposed by the antipope, Boniface VII., thrown into prison and said to have been poisoned.

John XV. (985), elected successor to John XIV., but died before his consecration.

John XVI. (986), a native of Rome, set up by Crescentius, a patrician. Overthrown by the emperor and treated with cruelty.

John XVII., a pope for a few months in 1003.

John XVIII. (1003-9), when he resigned his office and entered a monastery.

John XIX. (1024-33), a native of Rome, succeeded Benedict VIII.

John XX. (1276-77), a native of Spain, and a man of great learning, often called John XXI.

John XXI., see *John XX.*

John XXII. (1316-34), a native of Cahors, France. Endeavoured to propagate Christianity in distant lands. Important in German history as taking active part in disputes of Emperors Louis of Bavaria and Frederick of Austria.

John XXIII. (1410-15), succeeded Alexander V., and his title was disputed by Popes Benedict XIII. and Gregory II. A man of depraved morals, and committed many heinous offences. Finally deposed.

John (1199-1216), King of England, probably born at Oxford on Dec. 24, 1166, was the youngest son of Henry II. and Eleanor of Aquitaine, nicknamed John Lackland. In 1185 he was sent as governor to Ireland, but was soon recalled on account of his insolence to the Irish chiefs. J.'s coalition with his brother Richard and Philip of France in 1189, under circumstances of peculiar treachery, was regarded as Henry II.'s deathblow. He was no truer to his brother; during Richard's absence in the Holy Land he attempted to usurp the crown and joined Philip of France to oppose Richard's release. In 1199 J. became king, and one of his first acts is supposed to have been the murder of Arthur, the son of his elder brother, Geoffrey. The death of his able mother in 1204 removed the last restraining influence on his crimes and follies, and within a year Philip of France had annexed, with hardly any opposition, Normandy, Anjou, Maine, and Touraine. In 1205 began the great struggle between J. and the pope, Innocent III., over the election to the archbishopric of Canterbury, which led to the interdict of 1208, the deposition of 1211, and the excommunication of 1212. When the pope commanded Philip of France to invade England, J. submitted, agreed to hold his kingdom as a fief of the papacy, and to accept the pope's nominee, Stephen Langton, as archbishop. But his tyranny at home, coupled with the defeat of his forces at Bouvines (1214) by Philip, and the loss of Poitou stirred the barons to revolt, and led by Stephen Langton, they forced the king to sign Magna Charta at Runnymede (June 15, 1215). But J. had no intention of keeping his promises, and induced the pope to annul the charter. The barons, as a last resort, appealed to Philip of France, and the Dauphin Louis had landed in England when J. suddenly died at Newark. He married (1) Hawisa of Gloucester; (2) Isabella of

[illegible] Constitutional

John II. (1350-64), King of France, surnamed 'the Good,' succeeded his father, Philip VI. He roused a storm of righteous indignation by his arbitrary execution of Robert, Constable of France, and then by guileful means entrapped his son-in-law, Charles of Navarre, cast him into prison in Château Gaillard, and put to death his associate in intrigue, the Count d'Harcourt. This had not a little to do with the invasion of France by Edward III. and the Black Prince. J. was taken prisoner at the battle of Poitiers in 1356, and eventually died in captivity, as his subjects were too reduced by devastations, famine, wars, and civil broils to pay the ransom.

John II., or Hans (1481-1513), King of Denmark (from 1481) and of Norway and Sweden (from 1483), was occupied with wars and rebellions

throughout his reign. Failure attended his expedition against the Ditmarshers in Southern Schleswig (1500). This disaster led to revolts in both Norway and Sweden, and though the former kingdom was pacified in 1508, the latter continued the struggle till within a year of John's death. Under Sten Sture, and later under Svante Sture, who had gained the support of the Hansa towns, the Swedes succeeded in throwing off the Danish yoke.

John, kings of Poland:

John I. (1492-1501), a brave soldier but a poor statesman. An insurrection in Moldavia frustrated his projected crusade against the Turks.

John II. (*Casimir*) (1648-68), was obliged by the Peace of Zborów (1649) to recognise Chmielnicki, the Cossack chieftain, as 'hetman' of the 'Zaporozhians' or Cossacks of the Dnieper. In 1655 Charles X. of Sweden overran Poland and invested the capital. In 1657 Casimir allied himself with the emperor Leopold of Austria to defeat the greedy and aggressive policy of Russia. Czarniecki drove out the Swedes, and the truce of Andrussowo (1667) concluded the war with Muscovy.

John III. (*Sobieski*) (1674-97), became commander-in-chief in 1668, having gained signal victories over the Cossacks and Tatars in the Ukraine. Having been heavily bribed by Louis XIV. to secure the election of Michael as king, he harassed the reign of the latter by continuous conspiracy, and drove him to sign a disgraceful peace with the Turks (1672). A splendid victory over the Ottoman foe in 1673 secured him the Polish throne. By the treaty of Zaravno (1676) he recovered most of Ukraine from the ignobly vanquished Ottomans. In 1683 he drove them from Vienna and after a brilliant victory forced them to retire from Hungary.

John, kings of Portugal:

John I. (1385-1433), called 'the Great' and 'father of his country,' was the father of Henry the Navigator. He proved a wise ruler, though his reign was darkened by continuous strife with John I. of Castile.

John II. (1481-95), called 'the Perfect,' curbed the power of his haughty noblemen, and drew up the celebrated treaty of Tordesillas with Castile (1494).

John III. (1521-57), bid fair to wreck the prosperity of Lisbon and his realm at large by being too partial to the whims of the clerical party.

John IV. (1640-56), became king by popular consent after the rebellion of 1640 against Philip IV. of Spain. His reign was occupied with a long struggle with Spain, and at his death his country had not yet reasserted its independence.

John V. (1706-50), allied himself with Austria in the war which closed with the treaty of Utrecht (1713), and afterwards became a tool in the hands of the Church party.

John VI. (1816-26), was at first regent (1799-1816). He lived in Brazil, and when he returned home in 1822 he agreed to govern on constitutional lines.

John of Austria (1545-78), a soldier, the natural son of Emperor Charles V. He grew up a man of far-reaching ambitions, and the tragedy of his disappointed life may be traced to the petty jealousy of his half-brother Philip II. of Spain, who was always at pains to defeat these ambitions. Philip had designed that he should become a monk, but Don John chose a soldier's career, and gained signal honours, first against Algerian pirates, then against the Moors of Granada (1570), and finally at the decisive naval battle of Lepanto (1571), when he was admiral of the combined fleets of Venice and Spain. Foiled in his project of a kingship over Tunis, Don John was finally appointed viceroy of the Netherlands (1576). Here his hands were crippled by lack of funds, men, or any show of support from Philip. His opponent was the redoubtable William the Silent. In 1577 he was forced to surrender and to recognise the 'Pacification of Ghent.' The following year, after a conspicuous victory over the Dutch patriots, he died of fever and, it is said, a broken heart.

John of Bohemia (1296-1346), 'the Blind,' the son of Emperor Henry VII. In 1311 he was crowned King of Bohemia. Some years later, when the royal houses of Bavaria and Austria were measuring lances for the imperial crown, J. secured the prize for the former by his victory at Mühldorf (1322). For two years (1333-35) he fought in Italy against the Ghibellines, and eventually met his death at Crecy, where he was supporting his father-in-law, the French king. Blindness overtook him towards the end of his life.

John of Gaunt (1340-99), Duke of Lancaster, fourth son of Edward III., born at Ghent in Flanders. In 1359 he married Blanche, heiress to the duchy of Lancaster and was himself created Duke of Lancaster in 1362. She died in 1369, and three years later J. of G. married Constance, daughter of Pedro the Cruel of Castile, and assumed the title of King of Castile in 1372. J.'s efforts to establish his claim against his rival, Henry of Trastamare, proved unsuccessful, and in 1387 he renounced all claims

in favour of his daughter Catherine. He was a very ambitious man and was greatly feared by the Commons and the young king, Richard II., while he opposed the greater part of the clergy by supporting John Wycliffe. After his return from Spain in 1389, he succeeded in gaining the confidence of the king and tried to promote peace between him and the barons. In 1394 his wife, Constance, died, and he married his mistress, Catherine Swynford, his children by whom were legitimised in 1397, one of them, Henry Bolingbroke, Earl of Derby, becoming King Henry IV. *See* S. Armitage-Smith's *John of Gaunt*, 1905.

John, Sir William Goscombe (*b.* 1860), an English sculptor, studied at art schools in Cardiff and London, and in Paris (1890-91), winning a gold medal at the Paris Exposition of 1900. He became R.A. (1909), and was knighted (1911). Among his chief works are statues of King Edward VII. (Cape Town), the seventh Duke of Devonshire (Eastbourne); Thomas Sutton, founder of Charterhouse (Godalming); memorials to the Marquess of Salisbury, Sir A. Sullivan; Cape Town Volunteers; 'A Boy at Play' (Tate Gallery); 'The Elf'; 'Morpheus and St. John the Baptist.'

John Dory, *see* DORY.

John of Leyden, properly **Johann Beuckels**, or **Borkhold** (1509-36), a Dutch fanatic, was a tailor, who eventually settled down in Leyden as an innkeeper. A disciple of the Anabaptist, Matthias, he was sent on a mission to Münster (1533). His fiery oratory soon gathered together a goodly company of zealous converts, who became known as the 'saints.' This success led to a strange and almost unique episode. For a twelvemonth J. became King of Münster, assumed the royal purple, married several wives, dispensed justice in the market-place, and put his enemies to death. In 1535 the bishop recovered the city, and after excruciating tortures J. was executed.

John of Salisbury (*d.* 1180), a learned scholar, studied in Paris under Abelard (1136), and also attended Oxford and certain Italian versities. His claims to high sc ship rest on his knowledge of and Latin, natural philosophy, logy, mathematics, and Hebrew. For many years he was secretary to Becket, whom he staunchly supported in all his vicissitudes, and whose life (together with that of Anselm) he subsequently wrote. Henry II. employed him on several embassies and received from his hands the papal bull authorising his conquest of Ireland. In his *Polycraticus de nugis curialium et vestigiis philosophorum*, J. mocks at the manners and vices of the great, whilst true

W. of Scotland. The expression is proverbially used for the most northerly point of Great Britain.

John's College, St., Cambridge, founded in 1511 by the Lady Margaret Beaufort. Her executors supervised its building, among them Bishop Fisher of Rochester. There are four courts: the most easterly with its fine gateway dates from the Tudor period; the second contains a panelled master's gallery with fine mouldings (1598-1602). The so-called Bridge of Sighs connects the third court with the fourth, which is on the other side of the Cam. The endowment includes nine sizars, sixty scholars, and fifty-six fellows, besides a master. Cecil, Lord Burghley, Roger Ascham, and Wordsworth were students here.

John's College, St., Oxford, was founded in 1555 by Sir Thomas White alderman of London. There are two quadrangles. In the first court is incorporated part of St. Bernard's College (founded in 1437) which formerly occupied the site, and to which the fine gateway giving on to St. Giles' Street also belongs. The second was built by Archbishop Laud, who lies buried in the chapel together with the founder, and who in his lifetime was very intimately associated with the college. This quadrangle, which is interesting by reason of the fusion of Classical and Perpendicular styles, overlooks the fine college gardens. Fifteen of the twenty-eight scholarships offered are reserved for Merchant Taylors' School.

John's, Eve of St., or **Midsummer Eve** (June 23), was celebrated with song and dance throughout Christendom in the middle ages. In some countries fires were kindled in the market-place, and the young folk joined hands and danced around. It was an English custom to fetch branches from a neighbouring wood

merrymaking. There was an Irish superstition that on this night the souls wandered to their scene of death, whilst there was a legend abroad in England that if a man kept vigil in the church he would see all those whom death would overtake within the coming year.

Johns Hopkins University, in Balti-

more, Maryland, U.S.A. Together with a hospital of the same name it was founded and endowed by a Baltimore merchant, Johns Hopkins (1794-1873), who bequeathed for the purpose 7,000,000 dollars. It was opened in 1876 on a site in the commercial quarter of the town, but in 1902 its re-erection was designed and begun on a spacious and pleasant plot of ground in a northern suburb. This essentially modern university offers five curricula for the B.A. degree, but is especially distinguished for its medical and graduate schools.

Johnson, Andrew (1808-75), the seventeenth president of the United States, educated himself by reading, both when he was a tailor's apprentice and journeyman. From 1830 to 1834 he was mayor of Tennessee; for four years between 1835 and 1841 he sat in the state House of Representatives, and later in the state Senate. Next he was elected to Congress, where he remained for ten years (1843-53), and finally to the national Senate (1857-62). From 1853 to 1857 he was governor of Tennessee. His policy was characterised by active sympathies with the working classes, sturdy opposition to all anti-Union measures and advocacy of protection of slavery. On the declaration of civil war, President Lincoln made him military governor of Tennessee, and after Lincoln's assassination he became president (1865-69). But the adoption of his predecessor's lenient policy with regard to the rebellious southern states was misconstrued into deliberate disloyalty and he was

The trial

-1876), an Oriental scholar, learnt Arabic from an Arab in Italy and after visiting Athens and Constantinople, accepted the chair of Sanskrit, Bengali, and Telugu at Haileybury College (1824). A revised edition of his monumental *Persian Dictionary* appeared in 1852. Sanskrit students are indebted to his *Hitopadésa*, 1840.

Johnson, Sir George (1818-96), an English physician, was in 1863 appointed to the chair of medicine at King's College, London, and was for some years house-surgeon at the hospital connected with the college. In 1886 he became consulting physician to the hospital, and three years later physician extraordinary to the queen. He specialised in the diseases of the kidney, on which he wrote a book (1852), and he also published *Lectures on Bright's Disease*, 1873.

Johnson, Jack (*b.* 1878), a negro prize-fighter, gained world-wide notoriety by his victory over J. J. Jeffries at Reno, U.S.A., in 1910. By this victory he became the 'champion of the world'; feeling had run very high in America over the combat, and the defeat of the 'white man's hope,' as Jeffries had been called, caused great dissatisfaction. After J. had performed on the music-halls in the States and in this country, an attempt was made to arrange a match with Wells in England, but the Home Secretary would not allow it to take place. Since then J. has done no fighting. The recent tragic suicide of his white wife revealed the acuteness of the race question in America.

Johnson, Lionel (1867-1902), an English man of letters, was a journalist in London. His best piece of literary criticism is to be found in his *Art of Thomas Hardy* (1894), and he also published two volumes of original poems (1897 and 1899).

Johnson, Richard (1573-*c.*1659), a romance writer, was baptised in London. Bishop Hall speaks of the remarkable popularity of J.'s *Famous Historie of the Seaven Champions of Christendom*, 1596(?), and the author, stimulated by its 'great acceptance,' wrote two other parts. He also published a satire entitled *Looke on me, London*, 1613, and *Anglorum Lachrimæ*, a lament for Queen Elizabeth, 1603.

Johnson, Richard Mentor (1781-1850), the ninth vice-president of the United States, was admitted to the bar in 1800, and sat in Congress from 1807 to 1819, and was for many years a member of the Senate. In 1837 the Democratic party and the Senate elected him to the vice-presidency, which he retained in spite of bitter internal dissensions till 1841.

Johnson, Samuel (1709-84), an author, the son of a Lichfield bookseller, born on Sept. 18. A precocious boy, he was from early days a great reader, and a customer of his father's, struck by the lad's talents, sent J. in 1727 to Pembroke College, Oxford, where he distinguished himself by his classical erudition. After acting as an usher at Market Bosworth Grammar School, he married, in 1735, the widow (*d.* 1752) of Henry Porter, a Birmingham mercer, and settling at Edial, took private pupils, amongst whom was David Garrick. In 1837 he went up to London with Garrick, determined to earn a livelihood by his pen.

for Cave, the publisher of the magazine; but it was Dodsley who published *London* (1738), for the copyright of which the author received £10. Six years later he wrote a bio-

graphy of his friend Richard Savage, with whom he had sometimes roamed the streets at night for want of the price of a lodging. In 1747 he issued the plan of his *Dictionary*, upon which, with the help of six amanuenses, he laboured for eight years. He published the best of his poems, *The Vanity of Human Wishes*, in 1749; and in the same year Garrick produced *Irene* at Drury Lane Theatre, where it ran for nine nights. J. in 1750 conceived the idea of a paper on the lines of the *Spectator*, which he called the *Rambler*, which he issued twice a week from March 20. It brought him a wider fame than any of his earlier writings. In 1754 Chesterfield, to whom the plan of the



SAMUEL JOHNSON

Dictionary had been inscribed long ago, now repented himself of his continued neglect of its compiler, and in the *World* wrote two papers commending the work; whereupon J., whose pride had been outraged, replied in the famous oft-quoted letter (Feb. 7, 1755), in which he said that the notice, 'had it been early, had been kind,' and added, 'but it has been delayed till I am indifferent and cannot enjoy it; till I am solitary, and cannot impart it; till I am known and do not want it." The quiet severe dignity of this inimitable letter alone would have made its author famous. J.'s mother died in 1759, and to pay the expenses of her illness and funeral he wrote *Rasselas*, the most popular of all his works. Three years later his financial troubles came to an end with the grant by Bute of a Civil List pension of £300 a year. In 1765 he brought out his long-promised Shakespeare, and between 1779 and 1781 published *The Lives of the English Poets*. J. had acquired a position in literary and artistic circles that has rewarded the efforts of no other man. He was the acknowledged dictator of 'The Club,' founded in 1763 by himself and Sir Joshua Reynolds, and numbering among its limited membership, Burke, Johnson, Beauclerk, Langton, Hawkins, Boswell, Garrick, Gibbon, Fox, Sheridan, and Adam Smith. There he laid down the law to all and sundry in that witty truculent style of conversation which Boswell has made familiar. Among his private friends were the Thrales and the Burneys, and with these he made excursions to different parts of England, a fascinating companion, if not always a pleasant guest. After Thrale's death, he quarrelled with the widow who decided to marry Piozzi. As a writer he had a ponderous style, which was often burlesque, and was best described by Goldsmith who said that the Doctor would make little fishes talk like big whales. He was didactic to an extraordinary degree, and he inculcated moral sentiments with gusto in season and out of season in *Rasselas* as in *The Rambler*. A man markedly disposed to belief in super-

very early

; *and Meditations* (1785). He had great courage, and a tender regard for humanity that was evinced in the kindness for and the generosity he displayed towards the unhappy, the poor, and the weak. J. is the most familiar figure in the 18th century, and if in the first place he owes this to his remarkable personality, in the second he is indebted for it to Boswell, who, in his biography, the masterpiece of biographies, has painted him to the life. The best edition of Boswell's work is that brought out by Dr. Birkbeck Hill (6 vols., 1887).

Johnson City, a tn., Washington co., Tennessee, U.S.A. It manufs. furniture, and has tanneries and iron foundries, and is the site of a home for soldiers. Pop. (1910) 8502.

Johnston, Albert Sidney (1803-62), an American general, graduated at West Point. He rapidly rose to the command of the forces of Texas, and successfully banished the Indian marauders from the N. of that state. After serving in the Mexican war, he was appointed paymaster to the United States army (1849), and in 1858 quelled the Mormon revolt without bloodshed. On the outbreak of

civil war, he joined the Confederates, but was mortally wounded at Shiloh (1862). President Davis pronounced his loss irreparable.

Johnston, Alexander Keith (1804-71), a Scottish geographer, was an exceptionally accomplished linguist and a skilful designer. His *magnum opus* was his *Physical Atlas* (1848), which illustrates the zoology, geology, botany, meteorology, and ethnology of the world, and which was described by a French Geographical Society in 1851 as 'Un des plus magnifiques monuments' of science in the century. J. published also a *Dictionary of Geography*, 1850; a *National Atlas*, 1843; and a splendid *Royal Atlas*, 1861.

Johnston, Alexander Keith (1844-79), a Scottish geographer, was the son of Alexander Keith J. (*q.v.*). The *Globe Atlas of Europe*, and the maps of Murray's *Scotland*, were drawn under his direction. In 1873 he accompanied a survey expedition to Paraguay as geographer, and in 1878 was appointed to the command of an expedition to Lake Nyasa, which the Royal Geographical Society, of which he was a life member, financed. He died of dysentery and was buried in Africa. 'Africa,' in Stanford's *Compendium of Geography*, and a series of treatises on physical geography are his chief works.

Johnston, Archibald, Lord Warriston (c. 1610-63), a Scottish advocate and statesman, was called to the bar in 1633, and was freely employed by the Covenanters in framing their protests against the persistent attacks of Laud and the High Church party, and in answering the senseless and aggressive proclamations of Charles I. The general assembly of 1638 chose him as clerk, and two years later he was deputed with seven others to negotiate with the English commissioners. Throughout the Civil War he exerted his influence to draw his fellow-countrymen into active opposition to the Royalist cause and himself proved so staunch a parliamentarian that Cromwell eventually raised him to the peerage and appointed him as a commissioner-judge of Scotland. At the Restoration he fled abroad, and in 1663 was executed at Edinburgh without trial, in accordance with a sentence of outlawry passed against him in his absence.

Johnston, Arthur (1587-1641) a Scottish writer of Latin verse, graduated at Padua as M.D. in 1610. During protracted foreign travels he visited Rome, Germany, the Netherlands, and Denmark, spent twenty years in France, and was for some time associated with the University of Sedan. About 1628 he was appointed physician to Charles I. His Latin version of the Psalms (1637) is inferior in popularity, and probably in merit to Buchanan's, but his contributions to the *Deliciæ Poetarum Scotorum* (1637), his satire entitled *Consilium Collegii Medici Parisiensis* (1619), and his elegy on James VI. (1625) prove him a good Latin scholar and no mean poet withal.

Johnston, Sir Harry Hamilton (*b.* 1858), a British explorer and diplomat, studied art for four years at the Royal Academy schools, and throughout his life took an active interest not only in painting, but in zoology, botany, anatomy, and architecture. After exploring Tunisia and Angola, he penetrated into the Congo district above Stanley Pool (1883), and in the following year led a scientific expedition to Mount Kilimanjaro. For three years (1885-88), he governed Cameroon and the Niger delta as vice-consul or consul in the British interests, and later, as consul for Portuguese E. Africa, he subdued the slave-trading Arabs in the region of Lake Nyasa, and established a large British Protectorate N. of Lake Tanganyika. For five years (1891-96) he was consul-general in British Central Africa, and for two years (1899-1901) he was employed in the administration of Uganda. Among his books of travel and description are: *The Colonisation of Africa*, 1899; and *A History of the British Empire in Africa*, 1910.

Johnston, James Finlay Weir (1796-1855), a chemist, studied under Berzelius in Sweden, and later became professor of chemistry at Durham University. He chiefly interested himself in the relation of his chosen science to agriculture, and for that purpose analysed soils from all parts of the realm. His *Catechism of Agricultural Chemistry and Geology*, and similarly his *Lectures* (1883) have done much to stimulate cultivation on scientific lines.

Johnston, Joseph Eggleston (1807-91), an American general, graduated at West Point, and fought in the Black Hawk and Seminole Wars. In the Mexican War he again and again distinguished himself by his gallantry, and was severely wounded in a reconnaissance at Cerro Gordo (1847). In 1861 he seceded from the United States army to join the Confederate forces, and was given the command of the army of the Shenandoah. At the first battle of Bull Run he promptly relieved Beauregard, and in 1862 was seriously wounded at the battle of Fair Oaks, where he commanded. In 1861 began his famous duel with Sherman, the opposing Federal leader, who lost during the daily actions and skirmishes some

26,000 men to J.'s 10,000. In 1865, after a desperate resistance at Bentonville, he surrendered to Sherman on terms similar to those of Lee.

Johnston, Sir William (1802-88), a Scottish geographer, was joint-founder with his brother of the well-known firm of W. & A. K. Johnston (1826), which produced Bryce's *Family Gazeteer*, etc. For three years (1848-51), he was lord provost of Edinburgh.

Johnstone, a tn. in Renfrewshire, Scotland, about 3 m. S.W. of Paisley. The town has cotton mills, brass and iron foundries, and machine shops. There are also coal mines in the vicinity. Pop. (1911) 12,045.

Johnstone, Family of, was a famous Border family, notorious for its turbulence and feuds with its neighbours, especially the Douglases and Maxwells. The family took its name from the lordship of Johnstone in Annandale, Dumfriesshire, and three branches of the family still exist: Johnstone of Annandale, Johnstone of Westerhall, and Johnstone of Hilton and Caskieben in Aberdeenshire. All three branches claimed the title of Earl of Annandale which had become extinct in 1658; Charles II. decided the claim in favour of a member of the first, the Earl of Hartfell, who was created Marquis of Annandale in 1701.

Johnstown: 1. A city and co. seat of Fulton co., New York, U.S.A., on Cayadutta Creek and 48 m. N.W. of Albany. It has some mills and gelatin factories and is, after Gloversville (3 m. to the S.), the most important glove-making centre in the U.S.A. Pop. (1910) 10,447. 2. A city of Cambria co., Pennsylvania, U.S.A., on the Conemaugh R., 75 m. E. by S. of Pittsburg. Coal, iron-ore, fire-clay, and limestone abound in the neighbourhood, and the chief industry is the smelting of iron and steel. There are important manufactures of pottery, cement, leather, bricks, beer, furniture, and woollen goods. In 1889 the bursting of the dam of the S. Fork Reservoir caused a tremendous flood which almost destroyed the city and cost a total loss of over 2000 lives. Pop. (1910) 55,482.

John the Baptist, Saint, son of Zacharias, a priest of the Temple, and Elizabeth, the cousin of the Blessed Virgin, was the immediate forerunner of Christ. He was the last of the great prophets to preach repentance and the coming of the Messiah. He lived an ascetic life in the wilderness beyond Jordan, though it would appear that his asceticism was not one of his primary characteristics, and that he cannot, therefore, have been closely connected with the Essenes (*q.v.*). Jesus came to him for baptism, and on this occasion John makes a clear confession and acknowledgment of his inferiority. The life and work of St. J. the B., on which the gospel histories throw much light, has been the subject of much study during recent years. *See* especially A. Blakeston's *John Baptist and his Relation to Jesus*, 1912.

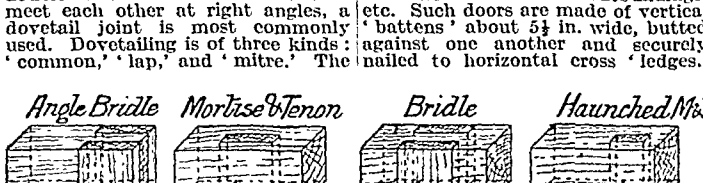
Johore, an independent state at the southern extremity of the Malay Peninsula under British protection and the rule of a native sultan (Ibrahim, proclaimed 1895). The coast is swampy, and the general character of the country low-lying and covered with forest. The highest peak is Mt. Ophir (3840 ft.) and the principal river the Muar. It is connected by rail with Penang and Singapore. The chief products are gambier, black pepper, opium, coffee, and timber. Area (estimated) 9000 sq. m. Pop. (estimated) 200,000, of whom 150,000 are Chinese.

Johore Bahru, the cap. of the state of Johore, Malay Peninsula, on the S. coast, about 15 m. N. of Singapore. It has a fine palace built by the Sultan Abubakur, and is a favourite resort from Singapore, having been termed the 'Oriental Monte Carlo.' Pop. (estimated) 20,000.

Joigny, a tn. in the dept. of Yonne, situated about 17 m. N.N.W. of Auxerre. The chief productions are wine and woollen goods. Pop. 6000.

Joinery, the complementary art to carpentry; the latter is concerned with the essential parts, the former with the ornamentation of buildings, etc. It includes the work done at the bench, in the preparation of the finished woodwork of buildings, such as doors, window frames, cupboards, etc. The main distinction between the two lies in the fact that the joiner works almost entirely in planed or wrought wood, whilst the material used by the carpenter is not so treated. The timber for joiner's work should be seasoned until it has lost one-third of its weight. The operations of J. require greater accuracy than those of carpentry; the joints must be accurately fitted and all exposed surfaces made smooth. A separate classification of the joints used in the two arts may be employed, but no hard and fast distinction can be drawn, as many joints are used in both. The mortise and tenon joint, especially, is used in the framing of doors, cupboards, partitions, etc. The wood used by joiners is called *stuff*, and consists of 'planks' or 'boards,' 'deals,' and 'battens,' so named according to their widths. Battens vary from 2 to 7 in. in width, deals are 9 in., and

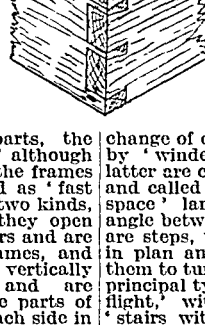
planks 11 in. The joints used to connect boards lying edge to edge comprise edge butt joint, rebated and filleted joint, rebated grooved and tongued joint, dovetail slip-feather joint, dowelled joint, grooved and tongued joint, matched and beaded joint, splay-rebated joint, rebated joint, etc. 'Matchboarding' has a tongue and bead worked on one edge and a groove on the other, so that when the pieces are placed together the joint is masked by the bead, and the tongue prevents the passage of dust, etc. A 'slip-feather' is a piece of wood which is inserted in plough grooves to strengthen a glued joint, etc. It may be of soft wood, when it is in short lengths, with the grain across the length, or in hard wood, with the grain in the direction of the length. The slip-feather may be also double or dovetailed. When boards meet each other at right angles, a dovetail joint is most commonly used. Dovetailing is of three kinds: 'common,' 'lap,' and 'mitre.' The

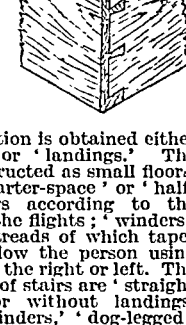


first class shows the form both of the projection and excavation in the stuff, the second conceals the dovetails but shows the thickness of the lap in the return side, whilst the third class shows only a mitre in the edges of the planes at their surface of concourse. In cases where it is undesirable to show the end grain of the wood, mitring is employed. When two lengths of [illegible] at an angle, [illegible] the angle and [illegible] When the end of one moulding is cut to correspond with the profile of the other, the operation is called 'scribing,' which is also the name given to the cutting away of the edge of a board in order to make it fit exactly to a plane surface. 'Bevelling' is joining two surfaces so as to make an oblique angle, or 'bevel'; thus the boards forming a mitred joint are cut to a bevel. In almost all joints glue is used as an aid to security; 'glue-blocks' are short pieces of wood glued into the angles of joints to strengthen them. Other fastenings for joints include cleats, joint bolts, wedges, pins, nails, and screws. *Beadings* are extensively used at the joints of boarding, in order to hide any opening of the joint caused by shrinkage. They are curved in section, and of convex shape. A beading is 'stuck' when it is formed from the material of the board, but 'laid in' when it is a separate piece fastened to the board. *Mouldings* are often used to ornament the arrises of joiner's work; in Greek mouldings elliptical and parabolic curves are chiefly found, whilst in Roman mouldings the curves are segments of circles. Different types of mouldings are known as 'Torus,' 'Cavetto,' 'Ovolo,' 'Scotia,' 'Cyma Recta' or 'Ogee,' 'Cyma Reversa' or 'Reverse Ogee,' etc. *Doors* may be divided into three classes: 'Ledged,' 'framed and ledged,' and 'framed and pannelled.' The first class is used for the doors of outbuildings, etc. Such doors are made of vertical 'battens' about 5½ in. wide, butted against one another and securely nailed to horizontal cross 'ledges.' To prevent the tendency to droop at the outer edge, sloping 'braces' are often inserted between the ledges, each brace sloping upwards from the hinged edge. The door is then called a 'ledged and braced' door. Framed doors are formed by constructing 'frames' of wood, between which 'battens' or 'panels' are fitted. The outer vertical members of the frame [illegible] called 'styles'; the horizontal [illegible] pieces, which are known as [illegible]s,' have different names according to their positions in the door, *e.g.* 'top rail,' 'lock rail,' 'bottom rail,' and, in panelled doors, 'frieze rail.' Braces are used only in framed and ledged doors. 'Muntins' are the vertical members which separate the panels of a door. The framing, in the case of framed and ledged doors, is put together, wedged up, and finished before the battens are nailed on. The panels, which are about one-third the thickness of the door, fit into grooves in the middle of the framing, into which they are inserted as the latter is put together. The simplest style of panelled door, when the door framing is left square

and the panels are plain, is known as 'square and flat'; other styles are: 'stop-chamfered,' 'single moulding,' and 'bolection moulding,' each with many varieties. For wide doorways 'folding doors' are used; for improving the appearance of a wide low doorway, a 'double margin' door which is a single door made to imitate folding doors, is often used. Doors which have the upper panels of glass are known as 'sash doors,' and are used as the outer doors of shops, vestibule doors, etc. Outer doors are generally hung to solid wooden frames, consisting of two uprights called 'jambs' and a cross piece or 'head.' When the doorway is higher than the door, a cross-rail called a 'transom' is placed across at the height of the top of the door, whilst above this is a window called a 'fanlight.' For hanging doors, 'tee,' 'spring,' 'butt,' and 'hook and eye' hinges are used. *Windows* are







usually made in two parts, the 'frame' and the 'sashes,' although in some warehouses, etc., the frames holding the glass are fixed as 'fast sheets.' The sashes are of two kinds, 'casement sashes,' when they open in a similar manner to doors and are hung to solid rebated frames, and 'hung sashes,' which slide vertically alongside each other, and are balanced by weights. The parts of the frame form a box on each side in which the weights are suspended; the outer groove is always occupied by the upper sash. The outer uprights and main cross-pieces of sashes are called 'styles' and 'rails' respectively, as with doors; any intermediate vertical or horizontal members are called 'bars.' 'Bay windows' is the name given to windows which project beyond the face of the wall. 'Dormer windows' are windows constructed in the sloping surfaces of roofs, distinguished from 'skylights' by standing vertically, whilst the latter lie in a surface parallel to the plane of the roof. 'Window shutters' may either consist of hinged leaves fitting into boxes at each side of the window, or of two parts sliding vertically past each other and balanced by weights. *Stairs* form an assemblage of steps for passage from one floor to another, and are contained in a 'staircase.' Wooden stairs consist of horizontal 'treads,' supported by vertical 'risers' under their front edges; 'string boards' support the ends of both treads and risers. String boards may be either 'close' or 'cut,' the former has its long edges parallel to each other, the lowest portion being termed an 'apron,' whilst the latter has its upper edge cut to the line of the treads and risers. The string which is adjacent to the wall is generally a close string, the outer string being either 'cut and mitred' or 'cut and bracketed.' A 'wreathed string' is the name given to the outer curved string of a geometrical stair. When the different flights of a stair are not in the same straight line, the change of direction is obtained either by 'winders' or 'landings.' The latter are constructed as small floors, and called 'quarter-space' or 'half-space' landings according to the angle between the flights; 'winders' are steps, the treads of which taper in plan and allow the person using them to turn to the right or left. The principal types of stairs are 'straight flight,' with or without landings, 'stairs with winders,' 'dog-legged,' 'open newel,' and 'geometrical' stairs. Handrails form the capping piece of the balustrading, upon which the hand rests in ascending or descending the stairs; they are usually rounded and fixed about 2½ ft. above

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of a room, for ornamental purposes;

they may be 'plain' or 'moulded.' Both architraves and skirting board are generally secured by wooden battens called 'grounds,' the backs of which are grooved, rebated, or splayed, and fixed by means of plugs, wood pallets, or joints to the wall. For the construction of floors, roofs, etc., *see* CARPENTRY. *See* J. W. Riley, [illegible] *ry*, 1905; F. C. [illegible] *d Joinery*, 1903; [illegible] *Joinery*, 1904; G. L. Sutcliffe, *Modern Carpenter, Joiner, and Cabinet Maker*, 1902; Binn and Marsden, *Principles of Educational Woodwork*, 1909, etc.

Joint Adventure, a partnership entered into for a single adventure or undertaking. Such a partnership is usually called a syndicate, and in the absence of express stipulation, the law presumes that the partnership comes to an end on the completion of the adventure or special financial or industrial project for which the syndicate was formed. The term J. A. is also used in Scots law with the same meaning.

Joint Fir, a term applied popularly to any species of Gnetaceæ, an order consisting of small trees or shrubs closely allied to members of the Coniferæ.

Joints. The study of anatomical J. is technically termed *arthrology* and includes an examination of the connections between any two or more parts of the skeleton. It is usual to divide J. into two classes, viz. *immovable* and *movable*, and the latter again into *perfect* and *imperfect*. Examples of the immovable (*synarthroses*) are those formed where an ossification takes place, as in a membrane, *e.g.* a *suture* of the skull. A special form of immovable junction is shown in the *gomphoses* or peg and socket Js. of the fangs of teeth into tooth sockets of the jaw. Certain bones, which are distinct in early life, tend to ossify after middle age. This *synostosis* is shown in the case of the fusion of the distinct *pubis*, *ischium*, and *ilium* into the single *os innominatum*. Imperfect J. (*amphiarthroses*) are those in which the conjoined bones or cartilages present no smooth surfaces, capable of rotatory motion, to one another, but are connected by cartilages or ligaments, the flexity of which alone allows of any mobility at the junction. Examples of such J. occur in the vertebral column, where thick plates of fibro-cartilage separate the flat surfaces of the vertebræ. The arrangement gives considerable springiness to the column, and tends to eradicate shocks caused by the jar in walking, jumping, etc., at the same time the body may be bent in any direction even though the actual [illegible] n any pair of verte- [illegible] *he pubic symphysis* [illegible] are only imperfect J., but in consequence of their presence the pelvis has considerably more elasticity than it would have if it were all one bone. In all perfect J. (*diarthroses*) the articulating bony surfaces are covered with cartilages, the convexities of the one cartilaginous cap fitting more or less closely into the concavities of the other. In some cases these *articular cartilages* are separated by *interarticular* plates of cartilage lying between them, and in this case the opposing faces of the interarticular and of the articular cartilages fit into one another. Between any pair of pads of either type there is a lining of *synovial membrane* forming a closed sac and containing a viscid lubricating secretion termed *synovia*. The actual shape of the surfaces forming the J. varies greatly and may be spheroidal, cylindrical, or pulley shaped, and it is suggested that in some cases the movement to which a J. is subject may determine or modify its shape so as to cause it to present divergences in different individuals. The following are some of the chief forms of J. of the human frame: (*a*) *Ball and socket*, a spheroidal surface furnished by one bone works within a cup furnished by another; this will allow of motion of the former bone in any direction, its extent being dependent on the concavity of the cup. This is deep in the case of the hip J. and the extent of movement is sacrificed to obtain additional strength. The shoulder yields an example of an extended movement, for in this the glenoid cavity is shallow. (*b*) *Gliding*, in which the articular surfaces are flat. Examples are given in the tarsal J., the intercarpal J., and in the jaw J. in one of its movements. (*c*) *Hinge*, which has a nearly cylindrical head fitting into a corresponding socket, the movement being practically restricted to a direction perpendicular to the axis of the cylinder; examples occur in the case of the elbow, knee, ankle, and interphalangeal J., where suitable attachments or bony processes prevent a backward dislocation. (*d*) *Double hinge or saddle*, in which the articular surface of each bone is concave in one direction and convex in a direction at right angles to this, *e.g.* carpo-metacarpal J. of the thumb. The tarso-metatarsal of the big toe is not a saddle J. (*e*) *Condyloid*, this is similar to the saddle and allows flexion, extension, and lateral movement and no rotation, but it is usually a weaker form of J.; examples, wrist and metacarpo-phalangeal. (*f*) *Pivot*,

in which one bone furnishes a pivot on which another turns, or it turns itself on its own axis resting on another bone, an example of the former is given in the case of the atlanto-axial, in which the odontoid peg of the axis passes through a ring-like portion of the atlas; this arrangement allows of the head being turned or shaken through a considerable angle. The occipito-atlantal J. used in nodding the head, is of a different type. The case of the rotation of a bone on its own axis is illustrated by the radius, which has a shallow cup adjacent to the humerus and a concave surface at its lower end which articulates with the ulnar. In *pronation* the radius turns on its own axis at its upper end and glides round the ulna at its lower.

Diseases.—The chief diseases of J. are those affecting the synovial membrane or the bone itself and but rarely the articular cartilages or the ligaments. Accidental injuries may cause *sprains*, in which the ligaments are stretched or lacerated, and there may be bleeding into the synovial cavity; swelling and chronic synovitis may result. Careful bandaging or strapping is necessary. *Contusion* results from the violent driving together of two opposed ends of bones. *Dislocation* results in a separating of the bones, and is relatively frequent at the shoulder and less so at the hip. The ankle and wrist are seldom dislocated as the J. are usually stronger than the fibula and ulna respectively, which may fracture under the strain. *Synovitis*, or the inflammation of the synovial membrane, may be due to micro-organisms existing during blood-poisoning, fevers, etc., or it may be caused by a punctured wound of the J. Rest and suitable supporting bandages are essential.

Permanent stiffness may be due to several causes. The synovial membrane may be destroyed and an osseous solidification may render the J. inoperative.

Rheumatoid arthritis is particularly prevalent in certain areas and in certain types of individuals. The articular cartilages may be worn away and replaced by an extra growth of bone at the knee, hip, or fingers. In the last case the fingers are knotted and the hands deformed. The gradual spread of the complaint in the patient and the little response which it makes to treatment add to its ill-fame.

Joints, in geology, are divisional planes in rocks. They never extend beyond the outermost crust, *i.e.* beyond the 'zone of fracture' as described by Van Hise, and vary in visible width from that of a hair to well-marked fissures, which in certain rocks may be widened by the solvent action of rain water, *e.g.* the grykes of the limestone regions of Yorkshire and the Lake District. They are most abundant in coherent rocks and absent in loosely packed material. In sedimentary rocks they normally run at right angles to the bedding planes, and there are well-marked *dip joints* at right angles to *strike joints*. Daubrée has proved that folding is largely responsible for their occurrence and movement along a J results in the formation of a fault; such movement is shown by the striated surfaces — *slickenslides* — of some J. The force producing them was often of the greatest intensity, for pebbles existing in conglomerates have been found divided with clean-cut surfaces. The J. not only give passages for the circulation of underground water but also for highly concentrated mineral solutions; on occasion the minerals are deposited and many mineral veins, *e.g.* calcite barytes, ores of lead, etc., are of this type. In igneous material the J. which are fewer usually traverse lavas vertically and dykes horizontally. In Cornwall the *master joints* in igneous rocks are vertical and a horizontal J. of frequent occurrence resembles the bedding plane mentioned above. This occurrence is of the greatest value in quarrying as it tends to divide the rock masses into definite cuboidal blocks. Contraction during desiccation or cooling also gives well-marked fissures, and the hexagonal columns of, *e.g.*, the Giant's Causeway have doubtless been produced by the latter action.

Joint-Stock Bank, *see* BANKS AND BANKING.

Joint-Stock Company, *see* [COMPANY.

Joint Tenancy. Where two or more persons hold the same lands by grant (*q.v.*) or devise (*i.e.* under a will), there being in the instrument of title no words indicating that they are to take in distinct shares, such common ownership is called a J. T. The essential elements of a J. T. are the following four unities: (1) Unity of title, *i.e.* the joint tenants acquire title under one and the same instrument; (2) unity of time of commencement of title, *i.e.* the estate of each vests at the same time. But under a will or deed operating under the Statute of Uses (*see* EQUITY, CHANCELLOR, CHANCERY COURT, TRUSTS AND TRUSTEES, CONVEYANCE) beneficiaries may acquire title on the fulfilment of contingencies expressed in the instrument, *e.g.* the children of X may take as and when they are

born; (3) unity of interests, *i.e.* each has the same quantum of estate, *e.g.* one may not hold a fee simple and another for life; and (4) unity of possession which is expressed in the phrase, *Seisin* (possession) *per my et per tout, i.e.* each joint tenant has an equal aliquot share of benefit in the undivided whole. The principal characteristics of a J. T. is the right of survivorship, wherein it differs from tenancy in common (*see under* COMMON TENANCY). A J. T. may be severed: (1) By partition, (2) by one joint tenant alienating his interest, or becoming entitled to a larger interest in the same lands. Partition may be either by agreement and perfected by deeds of mutual release, by order of the Board of Agriculture, or by action in the Chancery Court under the Partition Act, 1868. In an action the court will order a sale instead of partition if those interested to the extent of one-half request it, but if *less* require a sale the court *may* direct a sale unless the others buy out the interest of the party or parties requesting sale.

Jointure, in law, is a term denoting the provision made for a wife out of her husband's property in the event of his predecease. Unlike dower it is not limited to real estate, but now includes any provision made by a settlement for the support of the wife in the eve[illegible] husband. The [illegible] inated in the [illegible] of substitution for dower in cases in which the latter had no application. The right of dower gave the widow an indefeasible life estate in one-third of her husband's freeholds of inheritance, and when formerly lands became conveyed to uses (trusts), to which the common law right of dower did not attach, it became necessary to make some further provision for the widow. This was effected by giving her, in Coke's words, 'a competent livelihood of freehold of lands and tenements.' The effect of the Statute of Uses, which turned 'uses' into legal or common law as opposed to equitable estates, was to cause dower to attach to uses, and to prevent a widow from having both dower and J., the statute provided that the former may be barred by the wife's acceptance before marriage, and in satisfaction of her dower of a competent livelihood of freehold lands. The Statute of Uses may therefore be said to have originated the modern J. which usually takes the form of a yearly rent-charge or annuity created by a marriage settlement which specifies the mode and time of its payment. Where the husband *after* marriage makes provision for his wife, in the event of her surviving him, she has the right after his death of electing between taking the J. or claiming dower.

Joinville, a tn. in the dept. of Haute-Marne, France, on the R. Marne, was the birthplace of Jean de Joinville and of Mary of Guise. The château was erected under the direction of the Dukes of Guise. The town contains blast furnaces, and manufs. chain cables. Pop. 3700.

Joinville, François Ferdinand Philippe Louis Marie d'Orléans, Prince de (1818-1900), third son of Louis Philippe, King of France, born at Neuilly. He entered the navy and became a lieutenant in 1836, first distinguishing himself at the bombardment of San Juan de Ulloa (1838). In 1840 he was given the charge of conveying the body of Napoleon from St. Helena. In 1845 he successfully bombarded Tangier and occupied Mogador in Morocco. At the revolution of 1848, he sought refuge with the rest of his family in England. In 1870 he returned incognito to France, and fought at Orleans, but on the revelation of his name was expelled by Gambetta. From 1871-76, however, he was allowed to sit as member for Haute-Marne in the National Assembly.

Joinville, Jean Sire de (1224-1317), a French historian, and seigneur of Champagne. He accompanied Louis IX. (Saint Louis) in his unlucky Crusade (1248-54), and while at Acre composed his *Credo* or confession of faith (1250). He begun his *Vie de St. Louis* at the request of Jeanne de Champagne, when he was nearly eighty (completed 1309). There is an excellent critical edition of this by Natalis de Wailly (1874). *See* Didot's *Etudes sur Joinville*, 1870, and A. F. Delaborde's *Jean de Joinville*, 1894.

Joinville-le-Pont, a com., Seine, France, near the Bois de Vincennes, and 5 m. E. of Paris. Pop. 7000.

Jókai, Maurice (1825-1904), a Hungarian novelist, born at Rév-Komárom. He qualified as an advocate, but, encouraged by the praises of the Hungarian Academy about his play *Zsido fiu* (Jew Boy), he went to Pesth and embarked on a literary [illegible] of the rising talent of his country. For his part in the Revolution of 1848-49, and his support of Kossuth, he was proscribed by the government, and his life was only saved by a stratagem of his wife, Rosa Laborfalvy, the tragic actress. Until 1863 he took no

further part in politics, but published sixty romances and edited three periodicals. In 1863 he founded the government paper *Hon*, and entered parliament, becoming an ardent supporter of Koloman Tisza (1875-90). Among his romances, nearly all of which have been translated into English are: *The Golden Age of Transylvania*, and its sequel, *The Turks in Hungary; Timar's Two Worlds*, 1888, perhaps his masterpiece; *Eyes like the Sea*, which won the Academy's prize in 1890; *Midst the Wild Carpathians*, 1894, with its sequel, *The Slaves of the Padishah*, 1903; *Pretty Michal*, 1897; *The Lion of Janina*, 1897; *A Christian, but a Roman*, 1900; *The Baur's Sons*, 1902; and *Tales from Jókai*, 1904, with a biography by R. N. Bain. His work is sometimes marred by a straining after effect, and an ultra-romantic tendency, but is remarkable for its vivid imagination and a humour comparable with Dickens. *See* Névy László, *Jokai Mor*, and H. W. Temperley, 'Maurice Jókai and the Historical Novel,' *Contemp. Review*, July 1904.

Jokjokarta: 1. A residency of Java in the central part of the island. Area 1200 sq. m. Sugar, rice, and indigo are cultivated, and salt, coal, marble, and gold are found. Pop. (1897)858,392. 2. Or **Djokjokarta**, the cap. of the above, at the foot of Mt. Merapi, 35 m. S. of Surakarta, has a remarkable native palace and the ruins of an old Dutch town and fort. The Jogka market is famous for jewellery. Pop. 72,235.

Joliba River, *see* NIGER RIVER.

Joliet, a city and co. seat of Will co., Illinois, U.S.A., on the Des Plaines R., and 40 m. S.W. of Chicago. It is the seat of the state penitentiary, and the headquarters of the Illinois Steel Company and other large steel works, factories, and rolling mills. Calcareous building-stone, cement, fire-clay, and coal are found in the neighbourhood. Pop. (1910) 34,670.

Joliette, or Industry Village, a tn. in Quebec, Canada, 35 m. N treal. It is an agricultural c has manufs. of paper, ir flour, and lumber. Pop. 4500.

Jolly-boat, a small clincher-built boat, not so large as a cutter; it is usually hoisted at the stern of a vessel, and used for miscellaneous services. It has a bluff bow, and a wide transom, and is about 4 ft. in beam, and 12 ft. in length.

Jomelli, Nicolo (1714-74), an Italian composer, born at Aversa, near Naples. In 1737 his first opera, *L'Errore Amoroso*, was successfully produced at Naples. In 1748 one of his finest operas, *Didone*, was produced at Vienna. In 1753 he was appointed chapel-master to the Duke of Würtemberg at Stuttgart. His best known works are the operas *Ipigenia* and *Armida*, a Miserere, and a Requiem.

Jomini, Antoine Henri, Baron (1779-1869), a general in the French and afterwards in the Russian service, born at Payerne, canton Vaud, Switzerland. He served in the campaign of Austerlitz, and became principal aide-de-camp to Marshal Ney in 1805. His *Traité des grandes opérations militaires* (1804-5) brought him to the notice of Napoleon, under whom he served at Jena and Eylau. He served through the Peninsular campaign (1808), but after the retreat from Moscow entered the Russian service, in which he took part in the Russo-Turkish War, especially at the siege of Varna (1828). Besides the *Traité* he wrote: *Principes de la Stratégie*, 1818; *Précis de l'Art de la Guerre*, 1830; *Histoire de la Revolution*, 1806; and *Vie de Napoleon*, 1827. *See* Lecomte, *Le Général Jomini*, 1861, and Sainte-Beuve, *Vic*, 1869.

Jonah, the son of Amittai, is described in 2 Kings xiv. 25 as a Galilean of Gath-hepher who prophesied during the reign of Jeroboam II. The legend of his life, immensely popular in the middle ages, is related in the book which bears his name.

Jonah, The Book of, the only one of the books of the twelve minor prophets which does not purport to be the work of the prophet whose name it bears. This book is a narrative of the call of Jonah to prophesy against Nineveh, his attempt to avoid this duty, and his ultimate success, followed by his reproaches to God when ultimately, on the repentance of the [illegible] nishment phecy re- is not, of course, history in any sense. It belongs to the Midrashim: and the Midrash may be defined in the words of Dr. Driver [illegible] velopment suggested b [illegible] be perilous and difficult to attempt to connect the Jonah of this book with any historical personage. The story is post-exilic, and is based to a large extent on Persian and Babylonian mythology. The chief point of the parable lies in the writer's attempt to show that Jonah was mistaken firstly in supposing that Nineveh was less precious than Israel to Jehovah, and secondly in reproaching Him for His acceptance of the penitent. The story of the 'gourd' which terminates the book is probably an original product of the author's

imagination. *See* Driver's *Intro.* (5th ed.), 1894, and commentaries on the *Twelve Minor Prophets.*

Jonas, Justus (1493-1555), a German Protestant reformer, born at Nordhausen in Thuringia. He was canon of St. Severus and professor of law at Erfurt in 1518, and professor of theology at Wittenberg (1521). He was an intimate friend of Luther, whom he accompanied to the Diet of Worms and aided in his translation of the Bible. *See* Pressel's *Monograph*, 1863, and Meyer's *Festchrist des 400 Jährigen geburstags des Dr. Justus Jonas*, 1893.

Jonathan: 1. The son of Gershom and descendant of Moses, was the chief of the priests at Dan (Judges xviii. 30) in the time of Micah the Ephraimite. 2. The eldest son of Saul, the touching account of whose friendship with David is a popular heritage. He was slain at Gilboa, where Saul also met his death. 3. The son of Mattathias, and brother of Judas, whom he succeeded as leader of the Maccabean party. His statesmanship was greater than his ability as a warrior, and to it he owed the favourable terms which he made for the insurgents with Bacchides, the Syrian governor. He became high-priest in 153 B.C., but was slain in captivity eleven years later.

Jonathan, Brother, the personification of the United States, corresponding to the English 'John Bull'; the phrase has now been largely superseded by 'Uncle Sam.' The name is supposed to have come from Jonathan Trumbull (1710-85), governor of Connecticut and friend of Washington.

Joncières, Félix Ludger, called Victorin de (1839-1903), a French musical composer, born in Paris. His early admiration for Wagner was the cause of his leaving the Paris Conser[illegible] of [illegible] wo[illegible] forms of French opera and took Gounod as his model. From 1871 he was musical critic for *La Liberté.* His [illegible] the operas, [illegible] *nier Jour de* [illegible] 1876; *La* [illegible] *icelot*, 1900; the incidental music to *Hamlet*, 1863-68; a symphony; and other works.

Jones, Ebenezer (1820-60), an English poet, born at Islington, London. The early death of his father cut short his education, and compelled him to become a clerk in a tea merchant's office. His defective education is very apparent in his first volume of poetry, *Studies of Sensation and Event* (1843), which was very unfavourably received, although admired by Browning and Rossetti. His three remarkable poems, *Winter Hymn to the Snow*, *When the World is Burning*, and *To Death*, were written when he was dying. See the edition of *Studies of Sensation* by Shepherd (1879), with a Memoir by Sumner Jones, also papers by T. Watts-Dunton in the *Athenæum*, Sept. 1878.

Jones, Sir Edward Burne-, *see* BURNE-JONES, SIR EDWARD.

Jones, Emily Elizabeth Constance (*b.* 1848), an English lecturer, took a first in the Moral Sciences Tripos (1880). She lectured on moral science at Girton (1884), becoming mistress (1903). She was examiner in logic for the Cambridge Higher Local (1902-4). Her works include translation and edition of Lotze's *Microcosmus* (with E. Hamilton), 1885; *Elements of Logic . . .*, 1890; *General Logic; Primer of Logic* (2nd ed.), 1912; *Primer of Ethics*; various contributions to *Mind*, *International Journal of Ethics*, *Hibbert Journal*, *Proceedings of the Aristotelian Society*. She also edited Professor Sidgwick's *Lectures on the Ethics of Green, Spencer, and Martineau.*

Jones, Ernest Charles (1819-69), an English Chartist, born in Berlin. In 1844 he was called to the bar at the Middle Temple, but in 1845 joined the Chartist movement, and speedily became one of its most noted orators. His open advocation of physical violence led to his imprisonment for sedition (1848-50). In prison he wrote *The Revolt of Hindostan*, an epic poem. He published as well the novel, *The Wood Spirit*, 1841, and a number of poems including *The Battle Day*, 1855.

Jones, Henry (1831-99), an English author, born in London. He practised as a physician in London from 1852-69. In 1862 under the pseudonym of 'Cavendish' he published *The Laws and Principles of Whist Explained by Cavendish.* He was a member of several whist clubs including the 'Cavendish.' His work became the standard authority on the game. *See* Courtney's *English Whist and Whist Players*, 1894.

Jones, Henry (*b.* 1852), M.A. (Glasgow), hon. LL.D. (St. Andrews), F.B.A., hon. D.Litt. (Wales), born at [illegible] Professor of [illegible] University of [illegible] formerly held [illegible] and political economy at Bangor University College, and logic and metaphysics at St. Andrews University. Has written *Browning as a Religious and Philosophical Teacher; The Philosophy of Lotze; Idealism as a Practical Creed*; and *The Working Faith of the Social*

Reformer, the first and last of which have gained him considerable popularity and influence among a large number of people.

Jones, Henry Arthur (*b.* 1851), an English dramatist, born at Grandborough, Buckinghamshire. He was obliged to adopt a commercial career, but gained his first hearing as a dramatist with *Only Round the Corner*, produced at the Exeter Theatre in 1879, and *A Clerical Error*, produced in London. His melodrama, *The Silver King*, written with H. Herman and produced by Wilson Barrett in 1882, scored a great success. His *Saints and Sinners* (1884) caused a great discussion on account of the introduction of a religious element. *The Middleman* (1889) and *Judah* (1890) mark a great advance in technical skill, and are both powerful plays, although still of the melodramatic order. *The Dancing Girl* (1891; revised as *The Dancing Mistress* in 1913), *The Crusaders*, (1891), *The Bauble Shop* (1893), *The Tempter* (1893), *The Masqueraders* (1894), *The Case of Rebellious Susan* (1895), *Michael and his Lost Angel* (1896), *The Rogue's Comedy* (1896), *The* [illegible] most with His poetical drama, *The Tempter* (1893), was not a success, but with *The Triumph of the Philistines* (1895), he began a series of successful comedies which include *The Liars* (1897) and *The Heroic Stubbs* (1906). His latter 'serious' plays are, *Carnac Sahib* and *The Manœuvres of Jane* (1899), *The Lackay's Carnival* (1900), *Mrs. Dane's Defence* (1900), *Chance, the Idol*, and *The Princess' Nose* (1902), *Whitewashing Julia* (1903), *Joseph* [illegible] *evalier* (1904), *Dolly Reform-* *Knife* (1909). A uniform edition of his plays began to be issued in 1891, and his views on dramatic art in *The Renascence of the English Drama* (1895).

Jones, Inigo (*c.* 1573 - *c.* 1652), an English architect, born in London. His talent for drawing was remarked by William Howard, third Earl of Pembroke, who sent him to Italy to study painting. At Venice he transferred his attention to architecture, and in 1604 was invited to Denmark, where he is said to have designed the palaces of Rosenborg and Frederiksborg. He accompanied Anne of Denmark to the English court in 1604, and there designed the scenery for Ben Jonson's *Masque of Blackness*, given at Whitehall. In 1613, after a second visit to Italy, J. became surveyor-general of the royal buildings, and was commissioned to design additions to Whitehall, including the banqueting-room (1619-22). He held the same offices under Charles I. See *Life* by Peter Cunningham, 1848; W. J. Loftie, *Inigo Jones and Wren*, 1893.

Jones, John (*c.* 1765-1827), a Unitarian minister, born in Carmarthenshire. In 1795 he was appointed pastor at Plymouth Dock, and subsequently at Halifax, Yorkshire, and at London. The introduction of Greek-English lexicons is due to him, Greek having hitherto only been studied through Latin books. His *Greek and English Lexicon* was published in 1823. He also published *Illustrations of the Four Gospels*, 1808.

Jones, John Paul (1747-92), a commander in the American navy, born at Kirkbean, Kirkcudbright, Scotland. In 1764 he shipped as mate on a slaver and made several voyages to America. When war broke out between England and America in 1775, J. was given a commission in the American navy. In 1778 he was sent on a mission to Brest, and during a cruise round the British coasts succ[illegible] o *Drake*, and Whitehaven. [illegible] British ship *Scrapis*. In 1783 he was the agent in Paris of America for the collection of prize money, and in 1788 joined the Russian navy, taking part in the battle of Liman (1788), but left in 1789. He died in Paris, and the record of his burial-place was lost until in 1905 it was discovered in the Protestant part of the old St. Louis cemetery. His body was then escorted by a fleet of American warships to Annapolis. *See* Sherburn's *Life of Paul Jones*, 1825; Janette Taylor, *Collections*, 1830; *Life* by C. Townshend Brady in Great Commanders Series, 1900; and Winston Churchill's novel, *Richard Carvel*, 1903.

Jones, Owen (1741-1814), a Welsh antiquary, born in Denbighshire. He entered a firm of furriers in London in 1760, and eventually succeeded to the business. His spare time he devoted to the collection of ancient Welsh manuscripts (now in the British Museum), some of which he published under the title, *The Myvyrian Archæology of Wales* (1801-7), a collection of poems dating from the 5th to the close of the 13th century. He was the founder of the Gwyneddigion Society in London (1770).

Jones, Owen (1809-74), an English architect and art decorator, son of the above, born in London. He travelled in Italy, Greece, Turkey, Egypt, and Spain for some years, and on his

return designed several public buildings, although his specialty was interior decoration. He was one of the superintendents of works for the Exhibition of 1851, and was the designer of the Egyptian, Greek, Roman, and Alhambra courts for the Crystal Palace. He published *Designs for Mosaic and Tessellated Pavements*, 1842; *Polychromatic Ornament of Italy*, 1845; and, the most important, *Grammar of Ornament*, 1856.

Jones, Sir William (1746-94), an English Oriental scholar, born in London. He devoted himself to the study of European and Oriental languages from childhood, and in 1868 rendered a Persian *Life of Nadir Shah* into French at the request of King Christian of Denmark. In 1774 he was called to the bar, and in 1776 appointed Commissioner of Bankrupts. He then returned to his literary work, and published a translation of some ancient Arabic poems called *Moallâkat* (1781). In 1783 he was appointed to a judgeship in Bengal, which he held till his death; he devoted his leisure to the study of Hindu law, the results of which were published under the title *Digest of Hindu Laws* (1800). In 1784 he founded the Asiatic Society in Calcutta, and in 1789 he published the first volume of *Asiatic* [illegible]. His *Persian Grammar* was in 1772, but it was in the study of Sanskrit that his work was most valuable. His last work was a translation of *Institutes of Manu* (1794). His collected works were published by Lord Teignmouth in 1799, with Memoir prefixed in 1804. Jones' *Autobiography* was published by his son in 1846.

Jones, William Basil Tickell (1822-97), an English bishop, born at Cheltenham, Gloucestershire. After attaining high honours at Oxford, he was appointed Vicar of Bishopthorpe in Yorkshire [illegible]; Canon of Yo[illegible]; St. David's [illegible]; was chaplain of the House of Lords. He published: *The History and Antiquities of St. David's* in collaboration with E. A. Freeman, 1852-57; a volume of sermons, *The Peace of God*, 1869; and editions of several of the classics.

Jonesboro, a co. seat of Craighead co., Arkansas, U.S.A., 60 m. N.N.W. of Memphis; has manufs. of leather, cotton-oil, and waggons, and a large lumber trade. Pop. (1910) 7123.

Jongleurs, Jugglers, or Joculatores (Lat. *joculator*, a jester) were the descendants in mediæval times of the Roman mimes, the strolling players who were all that remained in the 4th century of the once great Roman theatre. They appeared at festivals, gave their entertainment, and vanished again into obscurity, but they alone carried down such traditions as remained of the acting drama of pagan antiquity, coming, in time, to blend with it the religious drama of the monasteries. In Northern France they very early adapted the religious drama for secular purposes, and came to be confused with the *trouvères*, who corresponded to the 'minstrels' of Saxon times. But the *trouvères* or minstrels were a superior class of entertainers; they were generally attached to great households to sing of war and noble deeds, whereas the J. were vagabonds, strolling from village to village to exhibit their juggling and pantomimic tricks. The requirements of a J. are quoted by Sismondi: 'He must know how to compose and rhyme well, and how to compose a *jeu parti*. He must be able to play on the tambourine and cymbals; to throw and catch little balls on the point of a knife; to imitate the songs of birds; to play tricks with the baskets; to exhibit attacks of castles, and leaps through four hoops; to play [illegible] to har[illegible] gigue so as to enliven a psaltery'—a combination, in fact, of the ancient minstrel and the modern conjuror (*q.v.*) and variety entertainer. They lived and travelled after the manner of present-day gipsies, in companies, and, according to Lacroix, under 'kings' of their own, but whether they were largely composed of the gipsy element is uncertain. *See* Sismondi, *Historical View of the Literature of the South of Europe* (trans. Roscoe, 2nd ed.), 1846; Lacroix's *Manners, etc., of the Middle Ages*, 1876.

Jönköping, a tn. of Sweden, the cap. of the prov. of the same name, 170 m. S.W. of Stockholm and 80 m. E. of Gothenburg, at the southern end of Lake Wetter. It has a great safety-match factory, a good shipping trade, and manufactures of snuff and cigars, paper, carpets and damask, dye and asphalt. It has played an important part in Scandinavian history, and was the scene of the conclusion of peace between Sweden and Denmark in 1809. Pop. 24,000.

Jonquil, the popular name for *Narcissus jonquilla*, a well-known and beautiful species of Amaryllidaceæ largely cultivated in Britain. Several of the flowers are borne on one stem; in colour they are yellow and the corona is well developed.

Jonson, Ben (c. 1573-1637), a poet

and dramatist, was educated at Westminster School under William Camden, and after working for some time for his stepfather, a bricklayer, went abroad to join the British army in Flanders. He returned in 1592, and soon after took to the stage. He joined the Admiral's Company, and not only took part in the performances, but also acted as hack-dramatist. A quarrel with the manager, Henslowe, resulted in his offering, in 1598, his first known comedy, *Every Man in his Humour*, to the rival company, the Lord Chamberlain's Servants, by whom it was produced at the Globe Theatre, with Shakespeare in the cast. The play was successful, and J. was at a



BEN JONSON

bound enrolled among the list of the leading dramatists. His next most important plays were: *Every Man out of his Humour*, 1[illegible] *Revels*, 1600; and *The* [illegible]. These were followed b[illegible] *The Foxe*, 1605; *Epicœne, or The Silent Woman*, 1609; and *The Alchemist*, 1610. In all he is credited with eighteen plays, albeit there were probably many more of which he was author or part-author. In addition to these he wrote several masques, numerous poems, and some works in prose. The best edition of his collected works is that edited by Gifford (1816), which was re-issued in 1875 with corrections by Colonel Cunningham. J. acquired a position to which scarcely any man of letters before him had attained. 'His conversation,' Clarendon has recorded, 'was very good and with men of most note.' H was on intimate terms with Bacon, Selden, Camden, Donne, and Fletcher, and certainly he knew Shakespeare. As a dramatist, he is second only to Shakespeare, with the possible exception of Marlowe. As a satirist he was magnificent, as a humorist unrivalled except by the master-dramatist himself. His poetry was exquisite, and he gave to everything he wrote the hall-mark of his vivid personality. There are biographies by Gifford (1816) and V. A. Symonds (1886).

Jonzac, a tn. in the dept. of Charente-Inférieure, France, on the League, 18 m. S.S.W. of Cognac. Cap. of the arron. of Jonzac. Pop. about 3000.

Joplin, a city of Jasper co., Missouri, U.S.A., 140 m. S. of Kansas City. Has large smelting and white-lead works, and rich lead and zinc mines. It is on the Missouri, Kansas, and Texas and other railways. Pop. (1910) 32,073.

Joppa, the ancient name of Jaffa.

Jordaens, Jakob (1593-1678), a Flemish painter, born at Antwerp. He studied under Van Oort and Rubens, being indebted to the latter for most of his artistic knowledge, and subsequently being employed by him. After Rubens' death, J. was recognised as leader of the Antwerp school. His colouring was rich and harmonious, and he excelled [illegible]ly in depicting humorous [illegible]. He also painted allegorical [illegible] and religious pictures, the [illegible] own among the latter being: [illegible] Last Supper,' 'The Martyrdom [illegible] Apollonia,' 'The Adoration of the shepherds,' and 'Christ in the Midst of the Doctors.' *See* Buchanan's *Jordaens et son Œuvre*, 1905.

Jordan, the most important river of Palestine. It runs from N. to S., through a great valley some 160 m. long, and at times as much as 15 m. broad. The highest source is 1700 ft. a-level on the W. of Mt. near to the village of and under the name of the Hasbany flows to join the Leddan and the Bâniasi, which have already united into one stream. Thence the J. flows S. into Lake Huleh and the Lake of Tiberias (Sea of Galilee), where it is already more than 600 ft. below sea-level. The most important feature in its course between the Sea of Galilee and the Dead Sea is the rocky cleft known as the Ghor, some 65 m. long and from 3 to 12 m. in breadth, through which it passes. It then falls into the Dead Sea at a point 1292 ft. below the level of the Mediterranean. The course of the J. is extremely tortuous, its total length being about 200 m. *See* Molyneux,

Narrative and Official Reports, 1847; Lynch's *Narrative of the U.S. Expedition*, 1849; and J. MacGregor's *Rob Roy on the Jordan*, 1870.

Jordan, David Starr (*b.* 1851), an American naturalist, born at Gainesville, New York State; educated at Cornell and Butler universities. From 1871-72 he was professor of botany at Cornell, and from 1875-79 professor of natural history at Butler University. In 1885 he became president of the University of Indiana, a position he continued to hold till 1891. He is the author of: *Fishes of North and Middle America; Care and Culture of Men; Science Sketches; Footnotes to Evolution; Animal Life; Food and Game Fishes of North America; The Human Harvest; The Stability of Truth;* and numerous papers on ichthyology and evolution.

Jordan, Dorothea (1762-1816), an actress, made her theatrical début at Dublin in 1777 as Phœbe in *As You Like It*. She acquired much experience in the provinces, and it was not until 1785 she first appeared in the metropolis at Drury Lane, with which theatre she did not sever her connection until her retirement from the stage twenty-one years later. She made no mark in tragic rôles, but as a comedienne she won many laurels. She had more than one intrigue before 1790, about which time she became the mistress of the Duke of Clarence (afterwards William IV.). She bore him many children, who took the name of Fitzclarence, and became well known in society; and the connection lasted until 1811. Four years later she went abroad, where, at St. Cloud, she died in 1816. There is a biography by *James Roaden* (1831).

Jordan, Sir Joseph (1603-85), an English admiral, who fought in the Dutch wars and was in command at the victory of Solebay in 1672, serving as vice-admiral of the Blue.

Jordan, Thomas (*c.* 1612-85), an English poet and pamphleteer, born in London. He began life as an actor at the Red Bull Theatre, Clerkenwell, publishing his first volume of poems, *Poeticall Varieties*, in 1637. In 1671 he was appointed laureate to the corporation of London, and composed every year a panegyric on the Lord Mayor, and arranged the pageants, celebrating them in verse. He wrote many works, some of which are preserved in the British Museum.

Jörgensen, Adolf Ditlev (1840-99), a Danish historian, born at Graaster, died at Copenhagen. In 1869 he became director of the royal archives, and in 1889 director of the Copenhagen institute and of three provincial institutions. His first publication was *La Fondation et les Premiers Progrès de l'Eglise scandinave*, 1874-78, treating of the history of the middle ages. After this he turned his attention to more modern history, and published a series of biographical studies. *Histoire des Archives du royaume de Danemark* appeared in 1884, and various publications followed, notably *Quarante recits sur l'histoire de la patrie*.

Jörgenson, Jens Johannes (*b.* 1866), a Danish author, born at Svendborg. He first gave himself up to the study of natural science, but soon abandoned this for literature. His first collection of poems appeared in 1887, followed in 1890 by *Un Etranger; L'Eté*, 1892; *Le Regret de la Maison*, 1894, etc. These earlier works are remarkable for the combination of poetic naïveté and realism displayed in them. After travelling in Germany and Italy, J. became a convert to

[illegible]

They include *Beuron, Bogen om Rom, Pilgrimsbogen*, etc. His later poems, too, are of a higher standard than those written in his early years. Amongst them are *Confession*, 1895, and *Poemes*, 1898.

Jornandes, or Jordanes (*fl.* 550), an historian and ecclesiastic of the 6th century. Originally a notary at the Ostrogoth court in Italy, he became a monk, and finally Bishop of Crotona, though the last appointment is rejected by some as unauthentic. His principal work is *De Getarum Origine et Rebus Gestis*, the only source of information of the history of the Goths. *The best edition is by Closs* (1888). He also wrote another Latin histori-

[illegible] *porum*

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[illegible] little

original thought. *See* Stahlberg, *Jornandes*, 1884.

Jortin, John (1698-1770), an English church historian and critic, born in London of Huguenot parentage. He was educated at Charterhouse and Jesus College, Camb., graduating in 1719. In 1762 he became vicar of Kensington, and in 1749 was appointed Boyle lecturer. Subsequently he became a prebendary of St. Paul's and archdeacon of London. Amongst his principal works are: *Miscellaneous Observations upon Authors Ancient and Modern; Remarks on Ecclesiastical History; Life of Erasmus; Lusus Poetici* (an early volume of Latin verse); *Sermons and Charges*, etc. See *Memoirs* by Disney (1792).

Jorullo, or Xorullo, a volcano of Mexico which came into existence in

Sept. 1759, when a great eruption occurred. Has an altitude of 4315 ft.

Josaphat, *see* BARLAAM AND JOSAPHAT.

Josefstadt, a tn. of Bohemia, Austria, 11 m. N. of Königgrätz, and formerly a strong fortress. It is on the R. Mettau. Pop. 5438.

Joseph: 1. Eldest son of Jacob and Rachel, and brother of Benjamin. His history, as conceived in the minds of writers of the 8th century B.C., is told with great detail in the Book of Genesis. The important points in it are his journey to Egypt, and the ensuing journey of the whole of the Israelitish tribes, his rise to supreme power in Egypt, and the taking of his bones to bury them in Shechem. The special connection of J. with Egypt is most important, and throws much light on the patriarchal history. 2. The husband of the Virgin Mary, spoken of in the gospels as the 'father' of Jesus. It is, of course, made clear that he was not the father of Jesus in the physical sense, but rather his guardian. The Church has, moreover, always held that he was never more than a guardian to Blessed Mary who remained Ever-Virgin. He last appears in the Gospel histories in connection with the going up of Jesus to the Temple at the age of twelve. From the fact that he is not mentioned in connection with our Lord's ministry, it has been gathered that he had died before this began. It is probable that the 'brothers' of our Lord were the sons of J. by a former wife. 3. Joseph of Arimathæa, a rich Israelite of high rank, and possibly a member of the Sanhedrin or Great Council, who was in secret a disciple of Jesus until his crucifixion. He then went boldly to Pilate and obtained leave to take down the sacred body. This done, he interred it in his own tomb. 4. J. called Barsabas, surnamed Justus, chosen out of two candidates to fill the place in the apostolic band left vacant by the death of Judas Iscariot. His name does not occur again in the canonical writings.

Joseph, King of Naples, *see* BONAPARTE, JOSEPH.

Joseph I. (1705-11), Holy Roman emperor, son of Leopold I., born in 1678. In 1687 he was crowned King of Hungary; in 1690 king of the Romans, succeeding his father as emperor and ruler of the Hapsburg dominions (1705), supported by England, Holland, and Savoy, he warred successfully against Louis XIV. (Spanish Succession War). The allies were commanded by Prince Eugene and Marlborough. J. granted privileges to the Protestants. *See* Lange, *Leben und Thaten des Kaysers Joseph I.*, 1712; Wagner, *Historia Josephi I. Cæsaris Augusti*, 1745; Herchenhahn, *Gesch. der Regierung Kaisers Joseph I.*, 1786-89.

Joseph II. (1765-90), Holy Roman emperor, son of Francis of Lorraine and Maria Theresa of Austria, born in 1741. He became King of the Romans in 1764, succeeding his father as emperor in 1765. In 1772 he signed a treaty with Russia and Prussia dividing Poland among the three. On his mother's death (1780) he came into possession of Hungary and all the hereditary dominions of Austria. In the Turkish War (1788-89) his general, Laudon, won several victories, but the result was unsuccessful. J. made many reforms, regulating the taxes and enforcing religious toleration, but he proved over-zealous, and alienated many of his subjects. Thus attempts to correct abuses in the Roman Catholic Church caused a rising in Belgium, and the Hungarians opposed his proposal to make the German language universal. He was succeeded by his brother, Leopold II. See *Life* by De Caracioli (1790), Cornova (1802), Brunner (2nd ed. 1885); Paganal, *Hist. de Joseph II.*, 1843; Huber, *Gesch. Kaiser Josephs II.*, 1792; Heyne, *Gesch. Kaiser Josephs II.*, 1848; Ramshorn, *Kaiser Joseph II. und seine Zeit*, 1845; Schlitter, *Pius VI. und Joseph II.*, 1894.

Joseph of Exeter (L. **Josephus Iscanus**) (*fl.* about 1200), a mediæval Latin poet, native of Exeter. His most important works are: *Panegyricus ad Henricum; De Bello Trojano* (6 books); and *Antiochus*, a poem on the third Crusade, on which he accompanied Archbishop Baldwin in 1188.

Joséphine, Marie Rose (1763-1814), an empress of the French and first wife of Napoleon, born at Trois Islets, Martinique, her father being captain of the port of Saint Pierre. Her maiden name was Tascher de la Pagerie, and she first married the Vicomte de Beauharnais, by whom she had a son Eugéne, viceroy of Italy, and a daughter Hortense, afterwards Queen of Holland and mother of the Emperor Napoleon III. Beauharnais was guillotined during the Reign of Terror (1794), and two years later his widow married Napoleon Bonaparte. She exercised a great influence over the emperor, and at Luxembourg and the Tuileries attracted around her the most brilliant society of France, but the union proving unfruitful, the marriage was dissolved in 1809, and the following year Napoleon married Maria Louisa of Austria. *See* Aubenas, *Histoire de l'impératrice Joséphine*,

1859; and Lenormand, *Memoirs of the Empress Joséphine*, 1904.

Josephus, Flavius (Φλάβιος Ἰώσηπος) (37 to after 100 A.D.), a celebrated Jewish historian (the 'Grecian Livy') and general, of both royal and sacerdotal lineage. He appears to have joined the sect of the Essenes, and spent three years with a hermit, Banos, in the desert, but in 56 he became a Pharisee. In 63 he visited Rome as deputy to Nero to procure the release of some Jewish priests, and succeeded through the influence of Poppæa. On his return he opposed the revolutionary spirit of his countrymen, but became governor of the two Galilees at the outbreak of war with Rome. In 67 he bravely defended Jotapata against the Romans, under Vespasian, but the latter was finally victorious. J. was saved for predicting that Vespasian should soon wear the imperial purple. He was kept for a time in honourable confinement, and then fought with the Roman army at the destruction of Jerusalem by Titus (70). His influence saved the lives of many of his friends. Vespasian made him a full Roman citizen, and he adopted the name 'Flavius' as a compliment to the emperor. His chief works are: *History of the Jewish War* (from 170 B.C. to his own times), Ἰουδαικὴ Ἀρχαιολογία (from the creation to 66 A.D.), *Autobiography* (English trans. by Traill, 1862), and a treatise *Against Apion of Alexandria*. See editions of the Greek text by Niese (1885-95) and Naber (1888-96); English version of Whiston (1737), revised by Shilleto (1889). Consult Van Hoevell, *Flavius Josephi Vita*, 1835; Bärwald, *Josephus in Galilæa*, 1877; Kreukel, *Josephus und Lukas*, 1894; Olitzki, *Flavius Josephus und die Halacha*, 1886; Destinon, *Die Quellen des Flavius Josephus*, 1882; Mez, *Die Bibel des Josephus*, 1895; Druner, [illegible] *Josephus*, 1897; [illegible] 1785.

[illegible] Nun, was in his early days an attendant on Moses, and on his death became leader of the Israelites in the conquest of Canaan. He is said (Num. xiii. 8 and 16) to have been of the tribe of Ephraim, and at first to have borne the name of Hosea. He died (Josh. xxiv. 29 ff.) at the age of 110, and was buried at Timnath-Serah.

Joshua, The Book of, the first book of the Former Prophets, narrates the story of the invasion and conquest of Canaan (chaps. i.-xii.) and the division of the land among the tribes (chaps. xiii.-xxiv.). The book ends with two addresses delivered by Joshua a little before his death. It was once taken for granted that the book was written by Joshua himself, but this is obviously impossible, since it speaks of events that happened in much later times. It is closely connected with the books of the Pentateuch, forming, indeed, their complement. They are occupied chiefly with the prophecies of the conquest of Canaan, which Joshua narrates. Recent criticism has made it clear that the B. of J. was compiled from the same sources and by the same steps as the other books of the Hexateuch (*q.v.*). In its present form it probably goes back to the 5th century B.C.

Josiah (c. 639-608 B.C.), son of Amon and King of Judah. He came to the throne at the age of eight, but nothing is told us of the earlier part of his reign. In the eighteenth year of his reign, however, occurred the finding of the Book of the Law (*see* DEUTERONOMY), which inaugurated a new era of reform. For many years after this J. ruled in peace and prosperity, but in 608 Pharaoh Neco II. came N. to press his claims in the partition of the Assyrian empire. J., about whose foreign policy we are told little, attempted to stop his progress with an army, and [illegible]

Jo [illegible] (1796-1865), a [illegible] born at Torda in Transylvania. He wrote a series of romances after the style of Sir Walter Scott, which aimed at a high moral standard, though enlivened with occasional humorous touches, and achieved great popularity. J. became involved in the Revolution of 1848, and was forced to live a life of exile in Brussels and Dresden. His chief novels are: *Abafi; The Last Bátory; The Bohemians in Hungary; Esther; A Hungarian Family during the Revolution*, etc. His complete works are comprised in about 100 volumes.

Josquin, Deprez (c. 1445-1521), a Flemish musical composer, born near St. Quentin, Hainault, one of the greatest masters of the Netherland school. For some time he was chapelmaster at St. Quentin, and from 1471 to 1484 he was musician at the papal court of Sixtus IV. He was regarded as the greatest modern composer of the day, and gave a great impetus to music in Italy. His printed compositions consist of 19 masses, 50 secular pieces, and upwards of 150 motets. For a complete list see Eitner's *Bibliographie der Musik-Sammelwerke*, 1877.

Jost, Isaak Markus (1793-1860), a Jewish historian, born at Bernburg, Germany. From 1826-35 he was a schoolmaster at Berlin, and from 1835-60 held a similar position at

Frankfort-on-Main. His chief work is *Geschichte der Israeliten*, and he also published *Geschichte des Judenthums und seiner Lekten*, and edited a German translation of the Mishnah, 1823-34. *See* Zirndorf's *Isaak Markus Jost*, 1886.

Jostedal, a tn. in Norway, about 110 m. N.E. of Bergen, at the eastern base of the plateau of Jostedalsbrä, the largest glacier-field of Europe.

Jötun (plural Jötuns), in Norse mythology, the name of certain mythical beings hostile to men, to Thor, and to the beneficent Œvir. These 'giants' or 'devourers' are types of the untamable, destructive forces of Nature, Loki being the father of the mightiest and dreaded of the race. Their abc Jötunheim or Utgard, desert in the far N., and they figure in the Thorpe, Keyser, 1841; P Mallet, *I*

Joube French and later professor at the Jesuit College at Toulouse, till about 1776. Going to Paris (1778) he became a member of the brilliant literary circles there, and was intimate with Fontaine. Chateaubriand published intended for 1838 (new ed. de Raynal). *See* Condamin, *Essai sur . . . Joubert*, 1877; Arnold, *Essays in Criticism*, 1865; *Les Correspondants de Joubert*, 1883.

Joubert, Petrus Jacobus ('Slim Piet') (c. 1831-1900), a Boer general an of of ser in the Civil War he became a successful farmer and a prominent citizen of the Transvaal, being acting president (1874) during Burgers' visit to Europe. J. went to England with Krüger (1878) to protest against the proposed annexation of the Transvaal, proclaiming its (1880) with Krüger a He won the victories of Ingogo, and Majuba Hil war with England. In 1893 J. contested the presidency with Krüger, losing by only about 665 votes. In 1896 he defeated Jameson at the time of his great raid. He devoted much time to the military organisation of his country, and on the outbreak of the Boer War (1899), commanded the army in Natal. He besieged General White in Ladysmith, after which his health failed, and he retired to Pretoria. He was a brave and upright man commanding the respect of his foes.

(1796- ntered under d became teacher there from 1817-22. He helped to edit the journal *Le Globe*, and was professor at the Collège de France (1832), leaving through ill-health to become librarian at Paris University (1838). J. made Scottish philosophy known in France. He always kept a sharp distinction between psychology and physiology. His works include translations of Dugald Stewart (1826), and Reid (1828-36); *Cours de droit naturel sophiques*, 1842. *See* *Vie*, 1876.

de Fran-

çois Dorothée, Marquis de (1751-1832), a French engineer and inventor of steam navigation, a captain of infantry before the Revolution. He conceived the idea of applying steam to navigation on seeing a fire-engine at Chaillot (1775). His first attempt was on the Doubs (1776), a more successful one being on the Saône (1783). Through lack of means and influence he lost the fame which Fulton won (1803). His *Charles-Philippe* was launched on the Seine (1816), and he published *Les Bateaux à Vapeur*. The Academy recognised his rights (1840), and Fulton proclaimed them in U.S.A. *See* Prost, *Monograph*, 1889.

Jougs, Juggs, or Joggs (Lat. *jugum*, yoke), a form of pillory used in Scotland and the Low Countries as a punishment for ecclesiastical and minor civil offences from the 15th to the 18th centuries. It consisted in a hinged iron ring or collar for the delinquent's neck, and was chained to a pillar or wall in some public place. An example remains at the churchyard gate of Duddingston near Edinburgh. *Cf.* BRANK, PILLORY, and STOCKS.

Joule, James Prescott, F.R.S. (1818-89), a famous English experimental philosopher, pupil of Dalton, but largely self-taught. His first dis-

invented. He adopted a convenient and scientific unit of work in practical electricity, called after him 'Joule.' It is the work done in one second by the 'ampère,' or unit current flowing through the 'ohm,' or unit resistance, equal to about 10,000,000 ergs (*see* ELECTRICITY, HEAT). J. is considered one of the founders of the theory of the correlation of forces, and in 1847 stated the doctrine of the 'Conservation of Energy.' Much of his time

since 1843 was spent in determining by different methods with the greatest possible accuracy the mechanical equivalent of heat. See *Nature*, Oct. 1882; Reynold's *Memoir*, 1893; *Scientific Papers* (collected by the Physical Soc., vol. i. 1884, vol. ii. 1887.

Jourdan, Jean Baptiste, Comte (1762-1833), a French general, served in America, and rose to be head of the army of the North (1793), defeating the Austrians at Waltignies. In 1794 he won the victory of Fleurus, driving the Austrians beyond the Rhine, and besieging Mainz (1795). After this he was less successful, being defeated by the Archduke Charles at Amberg and Würzburg in 1796, and again in 1799, whereupon he resigned his command to Masséna. He defended himself in *Operations de l'Armée du Danube . . .*, 1799, and became famous as framer of the conscription law (1798). Under Napoleon he became Director of Affairs in Piedmont in 1800; marshal in 1804, and governor of Naples in 1806. He accompanied King Joseph to Spain in 1808. Though created a peer by Louis XVIII. in 1819, he heartily supported the revolution of 1830. His last years were spent as governor of the Invalides. *See* De *Courcelles, Dict. des Généraux Français;* Michaud, *Notices historiques sur le Maréchal Jourdan. . .*

Journal, in machinery, that portion of a revolving shaft which is in contact with the bearings.

Journal, Le, a Paris daily paper, literary and artistic, founded in 1892 by Fernand Xau, not avowedly political. Henri Letellier has been director since 1899. Among its contributors may be mentioned Anatole France, G. Hanotaux, A. Berget, E. Gautier, Dr. Doyen, J. Bois, and P. Ginisty. Its offices are at 100 Rue de Richelieu.

Journal des Débats, Le, a Paris daily literary paper, of moderate Republican politics since 1870. It was founded by Beaudoin (1789), to report the sessions of the National Assembly. It was acquired by the Bertin family (1799), confiscated by Napoleon (1811-14), and then recovered by the Bertins. Etienne de Nalèche has been director since 1895, and made it an evening instead of a morning paper. Among famous contributors have been P. Bourget, E. Faguet, J. Lemaître, G. Berger, G. Perrot, E. Rostand. The offices are at 17 Rue des Prêtres, Saint-Germain-l'Auxerrois.

Journal de St. Petersbourg, a politi[illegible] daily paper, founded 1825, issued [illegible] of the [illegible] irs.

Journalism, the [illegible], and especially English J., is one of the romantic episodes of human history. No more fascinating biography could be written than that of Fleet Street personified as the Spirit of British Liberty. How many shattered reputations cannot its walls and narrow streets tell of! How many dazzling successes! Names crowd upon the memory from Dr. Johnson and Fielding at one pole to Archibald Forbes and G. W. Steevens at the other, or from the *Letters of Junius*, and the polemics of Addison and Steele to the humblest 'story' of a modern reporter-journalist. It began with literary aspiration; but the publishers have vanished to other quarters; it ends with the terse descriptive recital of current events, 'hot' from the source with 'splash' headings, and set in a framework of pill and tonic advertisements. But it is rather its accidental development that is the strange part of the history of English J. To modern ideas it is incredible that men did not seem to thirst for news; that it was not earlier realised what a weapon against political tyranny, publicity would prove. Hence the germ of J. in pure and quasi-literary efforts, redolent of opinion and often guiltless of fact. Its fortuitous development is seen in the very anomaly of the genesis of the freedom of the Press. No formal assertion of such freedom is to be found, except in the stately lines of the *Areopagitica* of Milton. Its institution was the result of the refusal of the Commons in 1695 to renew the Licensing Act which, in its turn, was an autocratic device consequent on the development of the art of printing. The newspaper proper begins with the development of the news letter, often in MS., which purveyed the 'chit chat' of the Capital much in the manner of the modern London or Paris letters; into a single printed sheet, posted on a fixed day in the week, and circulated in the provinces under the name of the *Weekly News*. This paper was [illegible] before 1695 and before the [illegible] mission of the S[illegible] a newspaper w[illegible] [illegible] of the Whig [illegible] [illegible] the *Current I[illegible]* and the *Protes[illegible]* the political [illegible] Exclusion Bill. [illegible] sion with news publishers [illegible], and there was a reversion to censorship with a consequent monopoly to the *London Gazette*. But it was not for long, and the appearance of the *Intelligencer* under the editorship of the remarkable Sir Roger L'Estrange in the reigns of Charles II. and James II.

inaugurated an era of discussion of public questions in the newspaper Press, which ultimately resulted in that Press attaining the virtual position of the Fourth Estate of the Realm (*see* ESTATES OF THE REALM). The age of Anne has been well described as the classic age of English literature, and its influence on the newspaper Press was no less marked than in purely literary circles. Papers like the *Tatler* and the *Spectator*, filled with the published wit of Addison, Pope, Steele, and Swift, burked politics altogether, in favour of satires on the transient, social foibles of the age. But there were a few other papers, like the Whig *Examiner* and Defoe's *Review of the Affairs of State*, which drew their breath of life from the atmosphere of politics, and with the beginning of fearless and scurrilous criticism of public men in articles either inspired or even actually written by some of the foremost men in the state like Bolingbroke, the whole character of newspapers underwent a change. Henceforth they were a power to be reckoned with, which no bureaucratic action could repress, which constituted itself the guardian of public liberty, and which was courted directly or indirectly by ministers themselves. It was the practice of reporting the speeches of the opposition of the day that paved the way for publicist articles in the Press, for the reports were the material upon which they were necessarily founded. In constitutional theory it was a gross breach of parliamentary privilege to publish debates or discuss political questions in the Press, but by surreptitious means, reports, meagre it is true, crept into the papers, and before the middle of the 18th century, the Press had become firmly established as the backbone of Ministerial or anti-Ministerial support. The triumph of John Wilkes and the *North Boston*, marks a well-known epoch in the annals of Press criticism, and vindicated the right of the Press to extend its criticism to the acts and words of the sovereign himself. The *Morning Chronicle* is generally credited with being the first paper to employ a regular staff of parliamentary reporters who actually took their place in relays in the gallery of the House, and according to Charles Pebody's *History of English Journalism*, James Perry, its editor, practically created the profession of J., though certainly not as we know that profession to-day. Developments in J. proceeded apace with the founding of the *Morning Post* in 1772, the *Morning Herald*, *The Courier*, *The Sun*, and the *Anti-Jacobin*, before the expiration of the 18th century. The proprietors of the *Morning Herald* established correspondents in all the chief capitals of Europe and big towns of Great Britain, and organised a system of expresses for the speedier transmission of news. Probably the rivalry between the *Morning Chronicle* and the *Times*, under the proprietorship of the famous John Walter, did more for the progress of English newspaper J. than any other event. Each paper was constantly striving to surpass the other by the introduction of some novel feature. The 'leading article' became a work of art and no less a powerful influence in the interpretation of public opinion than a source of lively interest to readers in general. Coleridge, Peter Fraser, and John Sterling, were among the most notable writers who set the earlier style of 'leaders,' and though the daily newspaper Press has not been remarkable for attracting the most distinguished writers, it has been the Mecca of many a leader-writer of astonishing powers of pungent criticism. John Walter's adoption of printing by steam machinery in place of the slow system of printing by hand set the *Times* on the high road of a successful commercial and journalistic career, that for long was the envy of the Press world. (For the history of the *Times*, *see under* TIMES, and for a fuller description, reference may be made to Pebody's *English Journalism* [illegible] 1887.) The [illegible] is the [illegible]ly its [illegible]i the prestige it secured in the eyes of the civilised world as the authoritative expression of national opinion, fully justified Archdeacon Denison's aphorism that 'if Scripture said one thing in England, and the *Times* newspaper another, five hundred out of every five hundred and ten people would believe the *Times*.' It was fortunate, however, and in a less degree is so in these days, in generally being able to command occasional contributions or letters from the most distinguished men of the day upon matters of controversy or intense public interest. The history of the *Times* is, indeed, that of English J., [illegible] known as the [illegible] organ [illegible] 'the [illegible] enterp [illegible] . in [illegible] fitting [illegible] the [illegible] early [illegible] the [illegible] utmos[illegible] cri-

tiques and articles upon almost every conceivable topic of social life, literature, and art, of George Augustus Sala, may almost be said to constitute the breaking point with the early and mid-Victorian methods of newspaper J. The trenchant, vituperative, and slashing style, long becoming obsolescent, received its death-blow, not only from the keener public interest felt in matters outside mere politics, but from the reflection in the papers themselves of the greater culture and *intellectual range of the people themselves*. It is often said that modern J. has led public opinion, but it seems truer to say that it has moulded it by enlisting in its services a greater proportion of the intellectual force of the country than any other profession or circle.

But the modern J. also has its personal note, and that personal note is its outstanding characteristic. But it is a different form of intimacy to that of the letters of Junius, or the fulminations of John Sterling of the 'Thunderer' (the *Times*). This is essentially the age of what is known as the 'human document.' With all their precision of diction and close adherence to classical models, there was in the J. of fifty (or even less) years ago, a marked conventionality of tone. To us that tone seems to have been stilted and even 'priggish.' People generally, and writers no less, did not so much give free play to individual ideas, as present everything in the form of independent or external phenomena, and having no relation to human sympathies. It required the free play of

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only to make art generally, and the art of J. in particular, conscious of itself, but to make criticism, which in its wider sense is the rock-bottom of J., really sincere. It was the stereotyped conception of that anomaly, the British constitution, which sounded the keynote to every publicist and political journalist of the Victorian era; that constitution 'which,' says Matthew Arnold, 'seen from the practical side, looks such a magnificent organ of progress and virtue, seen from the speculative side—with its compromises, its love of facts, its horror of theory, its studied avoidance of clear thoughts, . . . looks . . . a colossal machine for the manufacture of Philistines.' No more vivifying influence on the social life of the community was ever exerted than by scientific socialism with its unemotional analysis of general appearances, its frequently wild paradoxes, and its ruthless exposure of underlying crude inequalities; and it has left its *mark on J. The progress of modern J.* is a reflection of the restless and searching inquisitiveness of the age. The ramifications of the newspaper Press into every department of life are bounded by nothing but the discretion of its personnel and the law of libel. Perhaps, even in the later Victorian era, when monopoly and censorship were long-forgotten relics of the past, nothing existed to fore-*shadow the methods of the new J.* which has been identified with the name of the late W. T. Stead. Big London dailies, which in that era were marked by a pompous dignity of style, are fast yielding before the wave of sensationalism. Sensationalism is the life-blood of the halfpenny dailies and the majority of the Sunday papers, and may not inaptly be regarded as an antidote to thought, a narcotic for the 'nerves' engendered by business competition and socialist criticism. For Socialism and all it implies in the shape of social unrest seems, with the co-operation of industrialism, to have divided J. into two definite streams, the one intellectual, instructive, challenging, the other entertaining and ephemeral. The papers that advance any other than an orthodox party creed, are not to be found among the *London dailies. The personal views* of a publicist, that creature whom Oscar Wilde stigmatises as a man who bores the community with the details of the illegalities of his private life, are no longer allowed to weigh with the proprietors to the detriment of the revenue from advertisements. Competition is keener than ever, and success is only to be gained in J. by satisfying the public taste. If a particular legislative proposal is exciting controversy, a newspaper campaign for [illegible] white
hea[illegible]t dies
dow[illegible]on the

heap of things forgotten. The modern craving for a paper that shall be readable in a limited space of time by a public pressed for time, necessitates the presentation of all and every class of news in attractive form with 'scare' headlines, and frequently a *précis* in leaded type arranged in paragraphs. So great is the pressure on space in a London halfpenny paper, and in a lesser degree in a penny paper, that if parliamentary or other speeches, sermons, and lectures were not trenchantly sub-edited to make way for matter more to the public taste, those papers would quickly find themselves in the Bankruptcy Court. One result of modern methods in J. has been to make it difficult to say in what exactly J. consists. Primarily the func-

tion of a newspaper is to record news. If that were all, any company with capital at its back could successfully launch a new paper. But the bounds of modern J. are set by nothing short of the potentialities of human ingenuity in the graphic display of matters of current interest, to each of which is to be assigned no more space than is warranted by its relative importance in the eyes of the reader. For it is no longer the editor and contributor who decides what it is that the public shall read. The public calls the tune, and it rests with the newspaper accurately to gauge precisely how the inarticulate demand of the reader may best be met. Different classes of readers must be catered for in different fashions. The *Times* circulates essentially among the wealthy and Conservative elements, and hence something of old conventionality still permeates its tone and make-up. But the halfpenny Press is intended for the 'man in the street,' that nonentity who in the bulk yet forms the backbone of public opinion; and success in these journalistic circles can only be attained by playing up to the reader's political prejudices, or by enlivening the grey road of his daily toil by 'stories' of human interest brightly told, and, above all, accounts of murders and murder trials and the hearings of c[illegible] doings of rival clubs chronicled racing intelliger 'tips,' and a 'magazine' page or serial tale or both for home consumption. With these elements in common the majority of English daily papers do, however, undoubtedly each possess distinctive characteristics, though these are at bottom due to political colour. For example, one paper may lose no opportunity of pointing a moral of social reform; another of blowing the trumpet of Imperialism (*q.v.*). With the development of democracy it is not surprising that the newspaper Press should have become definitely the mouthpiece of public opinion, for there could exist no other adequate means of expressing that opinion. The oft-repeated cry against the 'tyranny of the Press' seems, therefore, to be based on a misapprehension; the fault, if there be one, is with the public which makes the profits of the newspapers, not with the papers which interpret its will. If modern J. has, as it has been said, truly become 'the leader of movements and the pleader of earnest causes' where before it produced but a dry record of facts, it only does so because the brains of its followers know how to visualise, how to articulate, and how to 'drive home' that which before was nebulous, inchoate, and unvoiced. One result of the progress of modern J. is the assignment to definite and separate spheres of J. proper and literature. The latter, no doubt, is present in the shape of clever reviews of new books (the appearance of which in itself is an event), turn-over articles, and a 'literary page' like page 4 of the *Daily Mail*. But these articles generally relate to matters of current and all-absorbing public interest, and literary form in them is entirely subordinate to the purpose of the article, which is primarily to persuade. The literary aspirant must seek his opening, not in the roar and hurry of J., but in the calmer atmosphere of magazines and reviews. In this latter kind of periodicals there has been a striking advance which finds its [illegible] of Impre mode of [illegible] Wilde, o of 'Jam Griffiths 'Asiatic prose,' who 'delighted in pictorial epithets and pompous exaggerations,' and a style so gorgeous that it concealed the subject about which it was concerned. The term 'Journalism' is admittedly a wide one, and in a manner of speaking, is almost [illegible]ne of degree. Anything that is written [illegible]rmane to some event or incident in periodical that belongs to the class so-called 'public journals' is an effort of J. But the main-spring of J. proper is news, and *periodicals like* the *Spectator* and *Saturday Review* occupy a position midway between J. proper and literature. A weekly periodical cannot be termed a journal without involving *almost a contra*diction in terms; and although 'weeklies,' like the above, often contain a *résumé* of recent news, the presentation of news is with them a matter of secondary importance. The writers of the often scholarly erudite or highly scientific articles produced *in such periodicals do not require* that essential to success of the modern *newspaper journalist*, the 'nose for news.' The latter probably possesses no specialised knowledge, though the failures of other professions drift in numbers into all grades of J. Such [illegible] does possess shaping, in , the salient [illegible] which the [illegible] o send him, and he must contrive to make that language exactly appropriate to the incident that forms its subject-matter.

From the foregoing observations it may be readily inferred that the duties of a journalist have become

extraordinarily exacting. The greater his knowledge and experience of the world and men the more successful is he likely to be. The most liberal education is useless without the knack of getting news and presenting that news in accurate, graphic, and convincing form. The goal of a journalist is, above all, to bring off a 'scoop' for his paper, with a sensational 'stunt.' A 'stunt' is apparently a term cognate with 'astounding' or 'stunning,' and denotes a sensational 'story'; a 'scoop,' means the publication of a particular item of news by one paper before its appearance in the columns of any other rival paper. Among the best scoops of more recent years may be mentioned that of the *Daily Mail* war correspondent, Mr. Edgar Wallace, who secured for his paper the first intelligence of the conclusion of peace at the close of the Boer War of 1900, which feat he accomplished through the instrumentality of a soldier and a handkerchief signal and a previously arranged code-telegram. Hardly less notable was the *Observer's* intimation in a Sunday special edition of M. Bleriot's successful flight over the Channel in an aeroplane. The name of the celebrated De Blowitz, the Anglo-French journalist, is almost a synonym for sensational journalistic feats, and his enterprise in getting the full text of the treaty of Berlin of 1878, published in the *Times*, synchronously with its signature in Germany will long live in newspaper annals. A clever scoop was accomplished recently by Mr. Martin O'Donohue, the war correspondent of the *Daily Chronicle*, who wired a full and vivid account of the rout of the Turkish army by the Bulgarian army at Lule Burgas. No less remarkable was the publication a day later by the *Daily Telegraph* of a full descriptive account of that defeat extending to some seven columns of wired copy.

In the stress of competition it is not surprising that the methods and devices of some journalists to secure and to transmit news do not always command approval. One war correspondent at the time of the Boer War unostentatiously appropriated the horse of an army officer in default of one of his own; and again the reputed pioneer of the new J., Mr. W. T. Stead, is said to have manufactured evidence for the purpose of emphasising his crusade against what is known as the 'White Slave Traffic.' But that Mr. Stead performed a great public service in that cause cannot be gainsaid. In regard to the training of a journalist England is behind America, in that she has no schools of J. like the School of Journalism of the University of Missouri, where a range of subjects is taught embracing sociology, economics, political science, English history, together with the arts of reporting, editorial writing, magazine J., and newspaper administration. English people seem to rely, not without some justification, on a tolerable public school education and the rough school of experience. Specialised knowledge may no doubt be acquired in a school, though a working knowledge of the application of economic and sociological principles can be acquired by experience and the faculty of keen observation; but that wider general knowledge of the way to handle all sorts and conditions of men, and to extract the quintessence of interest in all manner of events, is only to be learnt by experience. It is said by a competent authority that American J. has exercised considerable influence on English J. The hunt for men with 'live' ideas and methods is essentially an American habit. It may not be far from the truth to say that America is the home of modern J., for whereas in England the J. of the cheaper dailies, and, indeed, the 'descriptive' articles of most of the penny dailies and practically all the Sunday papers, is a bastard offshoot of pure literature, and in America J. was a spontaneous growth, and literature a late and poor development. Moreover, the absence of taxes on advertisements and paper, and of monopolies, conduced to the more rapid production of newspapers. Above all, American J. set the fashion of 'splash stories,' and 'scare' headlines, a fashion eminently in harmony with the highly strung, neurotic, national temperament. Some of the English cheaper papers systematically ape the style, and apparently it pleases the masses. Yet English sensationalism is not imbued with anything like the shrieking personal note that is in vogue in America. English J. respects the privacy of the home, the sanctity of class distinctions, and reverence for the national church, but nothing is sacrosanct to

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no way imitate the wild sensationalism of the journals owned by Mr. Hearst, a man whose policy may be readily inferred from his now proverbial distinction between papers that do things and papers which only chronicle them. In France the influence of American methods has been no less felt than in England. But the

fine literary tradition of French J. still lives in the signed article, and although the transition from literature to J., or in other words, from opinion to news, has resulted, as in England, in the mere co-ordination of politics with other items of intelligence, yet the frequent appearance of signed *articles de fond* by some of the most remarkable literary men of the age, indicates not only the vitality of the national literary character, but the greater importance attributed by the French people to the individuality of the journalist himself. In one respect the tone of French newspaper J. is reminiscent of the vigour of the earlier English publicist articles, and the very fact of the articles being signed has been frequently productive of duels, libel actions, and imprisonment. As befits a nation which can lay claim to being the home of drama, the highest-salaried member of the staff of a French newspaper is the dramatic critic, and his influence and that of literature in general on the Press is so great, that even the cheaper papers like *Le Petit Journal* and *Le Petit Parisien* contain excellent literary and dramatic criticisms. In other respects the general conduct of a French newspaper and its hierarchy of editors and sub-editors, special correspondents and reporters, are not dissimilar to our own. See *Modern Journalism* by a London Editor. *See* ADVERTISEMENT.

Journalists, Institute of, The, was established in 1889, by conversion of the National Association of Journalists, founded in 1884, and incorporated in 1890. Its objects are to devise examinations and practical tests for candidates for membership, to keep up a high standard for journalism, and promote the interests of journalists and journalism in every way. The Annual Conference was held at Brighton (1912). There are about 2500 members, with a London Hall at Tudor Street, E.C.

Joust, *see* TOURNAMENT.

Jouvency (or Jouvancy), Joseph Pierre (1643-1719), a French Jesuit and humanist, professor of rhetoric at Caen, La Flèche, and finally at Louis le Grand Collège, Paris. He was summoned to Rome, 1699, to assist with a *History of the Jesuits*, of which he wrote vol. 5 (from 1591-1616), which appeared in 1710. Other works were editions of Juvenal, Persius, Terence, Horace, Martial, and Ovid; *De Ratione discendi et docendi*, 1692 (trans. by Ferté, 1892). *See* Moréri. *Dictionnaire Historique*, and Quérard, *La France Littéraire*.

Jouvenet, Jean (c. 1644-1717), a French painter, son and pupil of Laurent J. the Younger (1609-81). Going to Paris in 1661, he worked under Lebrun at Versailles. He became member of the Academy of Painting (1675), professor, director, and finally one of the four permanent rectors (1707). On Lebrun's death he became head of the French school. Among his chief works are: 'La Guérison du paralytique,' 1673; 'Esther devant Assuérus,' 'La Pêche miraculeuse,' 1706; 'Descente de Croix,' 1697, and others in the Louvre. The 'Magnificat' and 'Visitation de la Vierge,' in the choir of Notre-Dame, were painted with the left hand, after his stroke of paralysis, 1713. *See* Leroy, *Vie*, 1859.

Jove, *see* JUPITER.

Jovellanos (or Jove Llanos), Don Gaspar Melchior de (1744-1811), a Spanish author and statesman, magistrate at Seville and Madrid. In 1790 he shared in the disgrace of Cabarrus, but Charles III. made him minister of justice in 1797. Imprisoned in Majorca through the intrigues of Godoy, on the latter's fall and the revolution of 1808 he returned and became a member of the Central Junta. He wrote the tragedy *El Pelayo*, 1769; the comedy *El Delincuente Honrado*, 1773; the epic *Mejico Conquistada;* lyrics, *Memorias Políticas*, 1801; and *A Mis Compatriotas*, 1811, a defence of the Junta and himself against suspicions of treason.

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tain of the life-guards under Julian, accompanying him against the Persians. J. escaped with the army to the Tigris on the death of Julian (363), and was soon chosen as his successor. He was obliged to conclude a humiliating peace with the Persian king, Sapor (or Shapur), ceding various districts and fortresses, including Nisibis. He proclaimed Christianity at Antioch, upheld the Nicene Creed against the Arians, and restored Athanasius to the see of Alexandria. The manner of his death at Dadastana is uncertain. *See* De la Bléterie, *Hist. de Jovien*, 1740; Gibbon, *Decline and Fall* . . . (chs. xxiv., xxv.); Amm. Marcellinus, xxv.; Themistius, *Or.*, v. and vii.

Jovinus, a Gaulish usurper, perhaps grandson of Jovinus (*d.* 379), and Roman general under Honorius. In 411 A.D. he assumed the imperial title, winning part of Gaul, but was attacked by the Franks and Visigoths under King Ataulphus, allies of Honorius. J. was defeated by them at Valence (412), and executed by the Roman prefect Dardanus.

Jowett, Benjamin (1817-93), a great English scholar and theologian, educated at St. Paul's and Oxford, becoming fellow of Balliol (1838), tutor (1842-70), and finally master (1870). He was regius professor of Greek at Oxford (1855). One of the greatest moral teachers of his age, he became intimate with Stanley, joining him and Tait in advocating certain university reforms (1846). One of the Broad Church school, his *Epistles of St. Paul* (1855) and a contribution to *Essays and Reviews* (1860) roused a storm of criticism and hostility. His great work was a translation of Plato's *Dialogues* (1871). There followed a translation of Thucydides (1881), of Aristotle's *Politics* (1885). His *College Sermons* were published in 1895. *See* Abbott and Campbell, *Life and Letters of Benjamin Jowett*, 1897; Tollemache, *Benjamin Jowett*, 1895.

Joynson-Hicks, William (*b.* 1865), an English solicitor, assuming the name 'Joynson' on his marriage (1898). He was M.P. (Unionist) for N.W. Manchester (1908-9), contested Sunderland (1910), and was M.P. for Brentford (1911). He takes much interest in philanthropic work, and is honorary treasurer of the Y.M.C.A. He has published *The Law of Traction on Highways* and temperance pamphlets. He is chairman of the Automobile Association of the United Kingdom.

Juan, Don, *see* JOHN OF AUSTRIA.

Juan Fernandez Islands, a small volcanic group in the S. Pacific Ocean belonging to Chile, situated about 380 m. W. of Valparaiso. The chief island is Mas-a-Tierra, 13 m. long and 4 m. wide, consisting of rugged rocks, with a pine-wood [illegible]. Others include Mas-a-Fuera and El Zunque, the latter 3225 ft. in height.

Juan Manuel, *see* MANUEL, JUAN.

Juarez, Benito Pablo (1806-72), a Mexican statesman, born at San Pueblo Guelatao, Oajaca, of Indian parentage. Called to the bar in 1834 and made a judge of the civil court in 1842, he became governor of the state of Oajaca in 1847, which post he filled till 1852, greatly improving the provincial conditions during that time. He was exiled from Mexico in 1853, but returned two years later and joined Alvarez and the revolutionists. In 1857 he was made chief justice and secretary of the interior, and was finally elected president in 1858 in succession to Comonfort. He retained this position till his death, and his vigorous and liberal policy was of great benefit [illegible] nation. *See* Baz, *Vida de [illegible] Juarez*, 1874, and *Life* by [illegible] 1894.

Juba, one of the chief rivers of E. Africa, forming the boundary between British and Italian E. Africa. It rises in the N., flows E. and S.E., then S., finally draining into the Indian Ocean. Length over 1000 m.

Juba I., King of Numidia, an ally of Pompey, whom he supported against Cæsar. He was defeated at Thapsus in 46 B.C., and committed suicide.

Juba II., son of the preceding, made King of Numidia about 30 B.C., and transferred to Mauritania in 25 B.C. by the Emperor Augustus on Numidia being made a Roman province. He was noted as an historical and general writer and wrote works on painting, botany, grammar, the theatre, etc., and histories of Rome, Africa, Assyria, and Arabia, none of which are extant.

Jubal, or **Jabal,** son of Lamech and Adah. In Gen. iv. 21 he is recorded as the inventor of the harp or lyre, and hence the discoverer of musical science.

Jubaland, a region of British E. Africa, adjoining the Juba R., the northern and western boundaries of which are undefined. The cap. is Kismayu. Ostrich feathers, ebony, gums, and manilla fibre are among the principal exports.

Jubbulpore, *see* JABALPUR.

Jubilate, the 100th Psalm, used as the second canticle in the morning service of the Church of England. The name signifies 'Shout ye.'

Jubilee, The Year of, was a peculiar custom among the Hebrews, in which every fiftieth year all land was restored to those original owners who had lost it within that period. All who were in a state of poverty, having had to hire themselves out, were released from their bondage, and all debts were remitted (Lev. xxv.). The jubilee was proclaimed at the close of harvest, on the tenth day of the seventh month, the day of atonement, when the *yôbêl* (horn) was sounded. The Roman Catholics have borrowed this word from the Hebrews in their celebration of ordinary or extraordinary jubilee. The first jubilee was inaugurated by Pope Boniface VIII. in 1300, when he issued a bull granting plenary indulgence to all pilgrim visitors of Rome, should they fulfil certain conditions.

Jubilees, The Book of, an apocryphal book of the O.T., known also as Little Genesis, The Apocalypse of Moses, The Testament of Moses, and The Life of Adam. The author was a rigid Pharisee of the time of John Hyr- [illegible] In this work [illegible] f Genesis and [illegible] entary, with [illegible] the views of

his party. In entire oppc ... ecular nature, and 300 ... Hellenist party, the Pha ... poetry represents both ... draws a sharp line of ... and the aspirations of ... between Jews and Gent ... In him the Jewish- ... sists upon the eternal nature of the Law. Before the revelation of the Law to man, it had ever been observed in heaven by the angels, and so would be kept throughout eternity. The author sets himself in every way to glorify Judaism, and insists on the rigid observance of its ceremonial. The work receives the name B. of J. because it calculates periods of time in jubilees, periods of forty-nine years, and lays stress on the mystical importance of the exact calculation of weeks and jubilees, with the ever-recurring number seven. The work was written in Hebrew, but was early translated into Greek, and thence into Latin and Ethiopic.

Juby, Cape, on the W. coast of the Sahara, Africa, a low sandy point opposite the island of Fuerteventura, which is one of the Canary Islands.

Jucar, or **Xucar**, a Spanish riv. in New Castile and Valencia, rising in the Sierra Albarracin. It is about 300 m. long, and follows a circuitous course, irrigating rice and other plantations, and entering the Mediterranean at Cullera.

Judæa, the region in the S. of Palestine occupied by the Jews who returned from the Babylonian exile during the periods of Persian, Greek, and Roman supremacy. Its limits varied at different times. Josephus says (*Bell. Jud.* iii. 5) that it extended from Annath, called also Borceos, on the N. to the village of Jordan on the S., from Joppa on the W. to the Jordan in the E. St. Luke, however, frequently uses the title to include the whole of W. Palestine.

Judah, according to the Genesis narrative, was the fourth son of Jacob and Leah, born at Haran in Mesopotamia. The tribe which bears his name was the most ... the twelve, and from ... house of David. It is ı believed, indeed, that its prominence in Israelitish history is due almost entirely to this king, to whom is attributed the union of clans, signified, according to the ethnic interpretation now so popular, by the incident of J. and Tamar. The capital of Judah was Hebron, and its territories stretched from Jerusalem on the N. to the territory of the Amalekites on the S., and from the Dead Sea on the E. to the Mediterranean on the W. Jerusalem was taken by David and formed a new capital.

Judah ben Samuel ha-Levi (c. 1085-1140), a Spanish-Jewish poet and physician, born at Toledo in Spain. Over 1100 of his poems survive, 800 ... Spanish renaissance of poetry reached its loftiest form both as regards subject-matter and mobility of conception, and he may be justly considered the greatest mediæval Hebrew poet. According to tradition he met his death on a pilgrimage to Jerusalem. Besides his poems, he wrote an apologetical work in Arabic, entitled *The Book of Argumentation and Demonstration for the Defence of the Oppressed Religion*, known as *Chozari*. *See* Kaufmann's *Jehuda Halevi*, 1877.

Judaisers, a sect in the early Christian church to which allusion is made in the N.T. writings. They laid emphasis on the necessity of the observance of the law, even by Gentile converts. They soon cut themselves off from the fellowship of the Christian church and were known as Ebionites. They practised a strict asceticism, having much in common with the Essenes, and considered Jesus as merely one of the prophets, born in a natural fashion. They also showed hatred of the Pauline writings. Their gospel must have been somewhat on the lines of the lost Gospel of the Hebrews.

Judas, not Iscariot (John xiv. 22), spoken of in the Lucan list as *ἰούδας ἰακώβου*, which may mean either 'brother' or 'son of James.' He is generally identified with the Thaddeus of Matthew and Mark.

Judas Iscariot, the betrayer of Jesus, was the only one of the disciples who did not come from Galilee. His name tells us that he was a Judæan of the town of Kerioth. All the gospels agree that he was the ... though ... in the ... of un- ... travelling the motives of his treachery ... ssible one. The gospels ... is action with avarice, but ... a hardly sufficient explanation and widely divergent views have been held; some, such as the Gnostics in ancient times and Noack in modern, make his action in hastening the Atonement a praiseworthy one. Others hold that he desired to test Jesus, to see whether he were indeed the Christ. It is more probable that his early love had cooled with his continued avarice, and that, turning to hate, his hasty temper led him to an act followed by all the terrors of remorse.

Judas Maccabæus, son of Mattathias, the first to take active measures to stop the persecutions of the Jews by Antiochus Epiphanes. Mattathias died in 166 B.C., and Judas, whose

surname has been explained as 'the hammer,' took command of the insurgent forces. He was a great warrior, and his leadership was marked by a series of successes over the Syrian generals, Apollonius, Seron, and Gorgias, and finally over the viceroy Lysias himself. After these successes, Judas made Jerusalem his centre of operations, and here he set to work to reorganise the religious system. He restored and fortified the temple, procured new priests, and brought in once more the observance of the whole Law. The Temple was solemnly re-dedicated at the end of the year 165 B.C., three years after its profanation. Religious freedom was granted to the Jews in 162, and the main object of the war was thus achieved, but Judas and many of his friends were resolved now to strive for political independence. Judas, however, was defeated and slain by Bacchides at Eleasa (161 B.C.). The command was then taken by his brother Jonathan.

Judas of Galilee, mentioned in Acts v. 37, was, with Sadduk the Pharisee, leader of an insurrection in 6 or 7 A.D., on the occasion of Judæa coming under direct Roman administration.

Judas Tree, the name applied popularly to several plants, on one of which Judas is said to have hanged himself. It is given most commonly to *Cercis Siliquastrum*, a leguminous tree found in S. Europe and cultivated as a hardy plant in Britain. The purple flowers are papilionaceous, and show before the leaves.

Judd, John Wesley (*b.* 1840), an English geologist, born at Portsmouth, and entered the Royal School of Mines, joining the Geological Survey staff in 1867. In 1876 he became professor of geology at the School of Mines, and in 1881 held the same position at the Royal College of Science. He was made a C.B. in 1895. His chief publications are: *Volcanoes; The Student's Lyell;* and *Geology of Rutland.*

Jude, The Epistle of Saint, the smallest of the general epistles and a canonical book which attained to its position only after much disputation. It does not appear in the Peshito, or Syrian version of the N.T., nor is it quoted by the greater number of Early Christian writers. Eusebius classes it among the Antilegomena, and later St. Jerome says that its use of the apocryphal Book of Enoch was the reason of its rejection by many. The author speaks of himself as 'Jude, a servant of Jesus Christ and brother of James,' and is usually identified with Judas, the apostle. His epistle is directed against a kind of false teaching closely allied to Gnosticism, though there is no means of deciding against which particular sect he wrote. This Gnosticism had led to immoral and licentious practices, and against these the writer also warns his readers. His main object is to urge them to do this by contending 'earnestly for the faith once delivered to the saints'

Judge. A J. is one who is invested with the power to hear and determine civil and criminal causes, and generally to administer justice by making such orders, decrees, and judgments as to him seem best fitted to subserve that purpose. The status of the highest Js., at any given time, in any given community, has always been one of great dignity; but the functions have differed to a remarkable degree, varying from those above noted to those of a mere juror or J. of fact, and again, judgments have varied from the ancient conception of divinely uttered awards of the Homeric poems to the prosaic though admirable models of scientific precision of the modern High Court J. In ancient codes, as Maine has suggested, the *themistes* (Greek *Themis*, goddess of justice) or judgments pronounced, whether by a king or priest in a dispute between individuals, were of so exalted a nature in the vulgar mind that they were not only deemed to be due to divine dictation but took the place of all lawmaking, and indeed laid the foundation of customary law. In Rome, during the era of the kings, the supreme J. in all cases was the king himself, and civil causes were decided by him in his capacity of *pontifex maximus* (high priest), and *jus* and *sacra* (law and sacred law) being for the most part inextricably involved in one another. In the developed Roman legal system the *judex* or J., who was generally a senator or, later, a knight, was a person with the very clearly [illegible] issue [illegible] or me[illegible] the *fo*[illegible] trate[illegible] sovere[illegible] legal proceedings with weight and solemnity; the judex, though of high status, had long since sunk to the *condition of a mere arbiter, and it* was the magistrate and not the judex who had the power not only to place the force of the state at the disposal of the judex or other person selected to administer justice, but who declared what the law was in particular cases. In all developed modern systems the highest Js. combine both or all of the above functions, they not only declare the law, even covertly

altering or improving it on occasion (Bentham's 'judge-made law'), but they set in motion the machinery for enforcing their judgments.

In England the hierarchy of Js. may be said to be as follows: The Lord High Chancellor, Lords of Appeal in Ordinary, the Master of the Rolls, the Lord Chief Justice of England, the Lord Justices of Appeal, Puisne Js. of the High Court, the County Court Js., Borough Recorders, County and Quarter Sessions, Stipendary and Petty Sessional Magistrates. The Lord Chancellor appoints the puisne Js. of whom there are nineteen in the King's Bench Division and six in the Chancery Division. The two additional Js. appointed by a special Act of Parliament in 1911 to cope with the arrears are not to be regarded as necessarily constituting a permanent increase; but even with this complement England possesses proportionally fewer first instance Js. than most of the other great powers. The Js. of the ultimate tribunal of appeal are all peers; those of the penultimate court of appeal are not peers though they are styled Lord Justice ——. All the puisne Js. are knighted on elevation to the bench, though they are somewhat quaintly styled Mr. Justice —— and addressed as My *Lord*. The chief J. of the Probate, Divorce, and Admiralty Division is styled the president, but there is only one other J. in that division. The Lord Chief Justice of England is merely the titular head of the King's Bench Division, though since the institution of the Court of Criminal Appeal, he presides in that Court. *See also* CIRCUITS, INFERIOR COURTS.

Judge Advocate-General, an army official appointed by the crown, whose duty it is to advise on the legality of proceedings at courts-martial with power to revise sentences passed by such courts, and upon other matters relating to the army. The office was originally held by a privy councillor who was also a member of the government, but the functions of the office were in 1892, assigned to a judge of the High Court. That arrangement not proving satisfactory, the duties were assigned to a barrister with a salary of £2000 a year. There is an analogous official at the Admiralty to advise on matters of naval law.

Judges, The Book of (Heb. שֹׁפְטִים *sophetim*, *cf.* Carthaginian [illegible] the second book of the Former Prophets, of which the main sect[illegible] continuation of the history [illegible] Israelites from the death of [illegible] to the death of Samson. The book may be divided into three parts: (1) Chs. i.-ii. 5 is a synopsis of the conquest of Canaan earlier in date than the Book of Joshua, from which it varies by making the action of the various tribes more independent. (2) The main body, chs. ii. 6-xvi. 31, presenting an apparently consecutive and chronological account of the government of Israel under six major and six minor judges. The scheme of the cycles is explained in ch. ii. 11-19, which shows the recurring events as they occur in the case of each judge, 'The children of Israel did that which was evil in the sight of the Lord . . . and they forsook the Lord . . . and the anger of the Lord was kindled against Israel and he delivered them into the hands of spoilers . . . and they were sore distressed. . . . And the Lord raised them up judges . . . and saved them out of the hands of their enemies all the days of the judge. . . . And it came to pass when the judge was dead that they returned and corrupted themselves more than their fathers.' The final redaction of this section is due to a Deuteronomistic editor, who provided the setting but did not alter the text. (3) The last three chapters, xvii.-xxi., consist of various incidents of the same period, but in no way connected with the earlier narratives.

Judgment, in philosophy, broadly the faculty which enables a person to arrive at the truth or at what any particular school of philosophy may consider to be the truth. In ethics, it denotes the faculty of distinguishing between right and wrong conduct. In metaphysics a proposition which, by its mere suggestion, is conceived as *necessary*, is an *a priori* J., and if derived from no other than another necessary proposition it is called an absolutely *a priori* J. These terms are used in the Kantian philosophy in the differentiation between knowledge gained by experience and *a priori* knowledge. In Kant's philosophy the Js. of experience are never truly and strictly universal, but possess only the comparative universality of induction, *i.e.* experience can only tell us that so far as our observation goes, a particular result will follow from a particular combination of circumstances. But necessity and strict universality are sure criteria of *a priori* knowledge. Hume arguing from this position had asserted that necessary and universal Js. could not exist as valid knowledge by reason of their very necessity and universality, [illegible]ier the effect of an asso[illegible] leas. Kant, however, [illegible] validity of universal [illegible] that they do in fact superadd something to our sum total of knowledge, and after arguing

the possibility of passing Js. going beyond the range of experience from the otherwise very impossibility of experience itself, goes on to show the bearing of such *intellectual* Js. upon the supersensible world or the ultimate problems of metaphysics—God, freedom, and universality.

Judgment, The Last. Christian eschatology deals in a particularly clear manner with a final resurrection, and the doctrine of the resurrection of the body finds a place in the creed of the Christian Church. This is closely connected with the article of the L. J. The Nicene Creed says that Christ 'shall come again with glory to judge both the living and the dead.' This belief is founded upon: (1) Many parables of Christ recorded in the Gospels, such as those of the wedding-feast of the king's son, the ten virgins, the talents, and the sheep and goats. (2) Other statements of our Lord, such as that contained in John v. 28, 29. (3) The clear words of St. Paul (2 Cor. v. 10), 'we must all appear before the judgment-seat of Christ; that every one may receive the things done in his body, according to that which he hath done, whether it be good or bad.' (4) The account given in the apocalypse of St. John (Rev. xx. 12 ff.). Briefly, the general Christian idea of the L. J. is that when the end of the world comes, those who have died before that time will rise again with their own bodies, though these will be spiritualised as was Christ's body after His Resurrection. Then all, both living and dead, will be judged by Christ. The judgment is not to be considered as arbitrary but as perfectly just and in accord with Christ's work as Saviour—'out of thine own mouth will I judge thee.'

Judgments Extension Acts. By the provisions of the Judgments Extension Acts a party who has obtained a judgment in any court in England, Scotland, or Ireland, may register the judgment in each of the other countries for the purpose of obtaining execution. The Judgments Extension Acts, 1868, provides for the registration in the Court of Common Pleas (now King's Bench Division) of Ireland, and in the office for the registration of deeds in Edinburgh, of certificates of entry of judgmer
courts o'
can be
months
unless the court that is asked to register it allows such registration. The effect of registering a certificate is to give a new cause of action to the creditor against the judgment debtor. The Inferior Courts Judgments Extension Acts, 1882, extends the principle of registration to judgments obtained in inferior courts (*q.v.*).

Judicature Acts, these comprise the Judicature Acts, 1873, 1874, 1875, 1877, 1878, 1879, 1881, 1883, and 1884, and the Appellate Jurisdiction Act, 1876. The main purpose of these Acts was to create a supreme tribunal out of the then existing courts (*see* COMMON PLEAS, EXCHEQUER, CHANCERY COURT, and KING'S BENCH) with as little change as consistent with the object of administering in the new court complete legal and equitable relief, and to simplify as far as possible the procedure therein by abolishi ni-
calities as
trover, by
other provisions designed to obviate the necessity for adherence to archaic terms of art. Under the Judicature Acts, the Supreme Court of Judicature, which consists of two branches, the Court of Appeal and the High Court of Justice; while the High Court is composed of the King's Bench, the Chancery, and the Probate, Divorce,
sions. Bank-
work and the
the Railway
Commission are assigned to particular judges of the High Court (*see also* CHOSE IN ACTION as to assignments). The Acts endeavour as far as possible to assimilate the procedure in the King's Bench Division and the Chancery Division of the High Court; but at the present day the proceedure in the two courts is essentially different, and the so-called fusion of law and equity popularly believed to have followed from the provision in section 4 of the Act of 1873 for the concurrent administration of law and equity, is little better than a legal fiction. *See under* CHANCERY, EQUITY.

Judicial Factor, *see* FACTOR, JUDICIAL.

Judicial Separation, a decree for J. S. or divorce *a mensa et thoro* is a remedy for certain matrimonial offences, which, unlike a decree of dissolution of marriage (divorce *a matrimonii vinculo*), does not leave the parties at liberty to marry again. A J. S. may be obtained by either spouse on these grounds: (1) Adultery; (2) cruelty; (3) under Section 16 of the Matrimonial Causes Act, 1857, for desertion without cause for two years or upwards; (4) for statutory desertion under Section 5 of the Matrimonial Causes Act, 1884, that is where the respondent to the petition for J. S. has failed to obey a previous order of the court for restitution of conjugal rights. Against a husband J. S. may also be obtained

on the ground of sodomy or an attempt to commit that offence. Where a decree is pronounced against a wife for adultery, and she has property in possession or reversion, the court may compel a settlement of so much of the property as it deems reasonable for the benefit of the husband or the children of the marriage. The petitioner for J. S. must, as in the case of a suit for dissolution, jactitation (*q.v.*), and nullity, file together with the petition an affidavit stating that there is no collusion (*q.v.*) or connivance between the two spouses. Where a wife gets a J. S. she may apply by petition for permanent alimony (financial support from the husband) provided she gives the husband eight days' notice prior to her application. The court, even before the decree for J. S. has been made final, may make such orders as it thinks fit for the custody, maintenance, and access, and education of the children of the marriage, together with provision for their support when the final decree is pronounced. Incidentally to these purposes the court has power to vary the terms of settlements of property on the respondent. The defences to a suit for J. S. are as in a suit for dissolution: (*a*) Connivance at adultery; (*b*) condonation of adultery; (c) collusion; (*d*) adultery, desertion, etc., not proven. Connivance, generally speaking, means acquiescence in adulterous intercourse by wilful abstention from taking any steps to prevent it. Cruelty and desertion, however much they may induce a wife to become unfaithful, do not amount to connivance in law. Condonation implies a conditional forgiveness with a full knowledge of all antecedent guilt, the condition being that the offence shall not be repeated, or, as it has been expressed, a complete blotting out of a conjugal offence followed by cohabitation with full knowledge of all the circumstances. Collusion means an agreement between the spouses to commit or appear to commit a matrimonial offence so as to facilitate a divorce.

In England the grounds for a dissolution are by some deemed unduly narrow, and the evidence given by a number of prominent people before the Royal Commission which sat under the presidency of Lord Mersey (formerly Mr. Justice Bigham, President of the Divorce Court) to inquire into the existing divorce laws, manifested a very prevalent desire for assimilating the grounds of dissolution to those of J. S. There is some justification for the description of the state of a judicially separated spouse, as one of 'compulsory celibacy conducing to immorality'; and if the married state be regarded from the purely material and non-Christian point of view, there may no doubt be the strongest arguments adducible in favour of extending the grounds of dissolution so far as to include not only the insanity of one spouse, addiction to drink, and so forth, but what the Americans call 'incompatibility of temperament.' But hardly any one can deny that no sort c[illegible] be advanced f [illegible] l law which g husband for his wife's adultery, but requires some additional matrimonial wrong, such as cruelty, to enable a wife to obtain any higher remedy than J. S. on account of her husband's adultery.

Judith, an old English poem, probably of the 9th century, of which only fragments remain, and of which the author is unknown. Its theme is taken from the apocryphal book of Judith, and the treatment is vivid in the extreme. The event is, of course, treated as though it were contemporary history, and the action throughout is assimilated to Saxon methods. The metre is the ordinary Anglo-Saxon alliterative verse, but it is varied towards the end by lines of extra length.

Judith, The Book of, one of the best known of the books forming the Apocrypha. It tells how the city of Bethulia was besieged in the time of Nebuchadnezzar, by his general, Holofernes, and how the Jewish inhabitants were in despair. They were encouraged, however, by a widow named Judith, who exhorted them to trust in God since their town was free from idolatry. She then went forth to the camp of Holofernes, who was captivated by her beauty. At the banquet he drank deeply, and when left alone with him, Judith took advantage of this and slew him. She then brought his head to her city, and her success roused the enthusiasm of her townsfolk, who rushed out in force and entirely scattered the besiegers. The story has always been recognised as unhistorical, for it is perfectly saturated with Pharasaism. It is now generally dated about the time of Pompey's march on Jerusalem in 63 B.C., but some place it earlier—about the beginning of the 1st century B.C. Bethulia is, of course, equivalent to Jerusalem.

Judson, Adoniram (1788-1850), an American missionary, born at Malden, Massachusetts. After graduating at Brown University (1807), he studied at the Andover Theological Seminary and became a Congregational minister. He sailed for Burma in 1812, and on the voyage joined the

Baptist Church. He and his wife settled in Rangoon, but subsequently moved to Ava, where J. was imprisoned during the Burmese War. His translation of the Bible into Burmese was completed in 1833, and was followed by a *Burmese-English Dictionary*. See *Lives* by his son (1883), Wayland (1854), and Middleditch (1859).

Juel, Niels (1629-97), a Danish admiral, born at Christiania. He served under Van Tromp and De Ruyter, fighting in the war with England (1652-54). He subsequently took part in the Swedo-Danish wars (1658-60), and in the Scanian War, when he was appointed to the supreme command (1673). He was victorious at Jasmund (1676) and at the Bay of Kjöge (1677), when he distinguished himself by his brilliant tactics.

Jugdalak, or Jagdalak, a village and pass situated between Kabul and Jalalabad, Afghanistan, memorable for a massacre of the British in 1842.

Juggernaut, or Puri, a tn. situated on the Orissa coast, Bengal, India. It is one of the holy places of India, and in addition to its having for a number of centuries preserved the Golden Tooth of Buddha, it is famous for a temple built in honour of Vishnu, and in which was his idol. The name given to this idol was Jagannath or Juggernaut (' lord of the world '), and it was the representation of a god of the people. Several festivals are celebrated in his honour each year, the chief one being that of the car. The ceremony consists in drawing the god on a huge car to a place near by, the journey extending over several days. Large numbers of pilgrims assemble in the town for this purpose, and as some are killed during the journey, the belief has become current that it is customary for them to throw themselves under the car. This, however, has been contradicted.

Juggling is very much the same as conjuring, demain. form of th whilst *jong* middle age minstrel, is the French equivalent. J. has a long history, and can be traced back to the days of the ancient Chaldees and Egyptians. The magicians of Pharaoh, Jannes and Jambres tried to outdo the miracles of Moses; and Zoroaster, who reformed the Magi, and Paracelsus, the necromancer, were famous for their marvellous feats. The Greeks and Romans were no strangers to sleight of hand, and among the latter the so-called *acetabularii* performed with tiny pebbles, (knife-throwers) a players) were professional entertainers in the imperial days. Massenet's pathetic opera, *Le Jongleur de Notre Dame*, gives an idyllic picture of a wandering juggler in the great monastic days, and in olden times no country fair was complete without its conjurers and tricksters, and no village was for long without its afternoon's entertainment in the form of the knife swallowings and ball-tossings of some needy and itinerant Merry Andrew. In Hocus Pocus' *Anatomy of Legerdemaine* (1634) there is mention of ' the greatest jugler in England,' who ' used the assistance of a familiar; he lived,' we are told, ' a tinker by trade, and used his feats as a trade by the by; he lived . . . always betattered, and died, for ought I could hear, in the same estate.' Jonas, Androletti, and Carlotti enjoyed high reputations as conjurers in Paris during the 18th century, and about 1783 the Italian, Pinetti, began to give his sensational exhibitions of legerdemain. In modern times the Indians and Chinese have surpassed Western peoples in the ingenuity of their impostures and in the positive skill with which they juggle with fire, rings, knives, balls, and swords—conjuring properties which seem more especially to form the stock-in-trade of the professional juggler. *See* CONJURING.

Juglans, the chief genus of Juglandaceæ, contains eight species, all of which are found in N. lands; it is closely allied to *Carya*, the hickory trees. *J. regia*, the walnut, is the best-known species of the genus; it is a tree of handsome appearance, with wood used for cabinet-making, while the fruit is edible and nutritious and the seeds yield oil. The other species have also edible fruits, and *J. nigra* produces valuable wood.

Jugular Veins, The. Their number varies in different individuals, but the four chief ones are: (*a*) the *external jugular*, which can usually be seen through the skin and muscle on the side of the neck. It runs in a line drawn from the angle of the jaw and eventually pierces the deep fascia above the middle of the clavicle and joins the *subclavian*. It receives its blood from the scalp and deeper parts of the face. (*b*) *Anterior jugular*, smaller, runs about half an inch from middle line of the neck. (*c*) *Posterior jugular*, collecting from the neck. (*d*) *Internal jugular*, uniting at the root of the neck with the subclavian to form the *vena innominata;* its blood is obtained from the superficial parts of the face and the deeper parts of the ium. ' Cutting the throat ' usu- results in injuries to one or more hese veins. A severance of the

internal is critical, and in the case of division of any of the jugular veins death may follow from the admission of air to the cardiac cavities.

In the development of the embryo the *primitive jugular* represents the *anterior cardinal* of the two longitudinal vein trunks formed by the junction of veins from body segments. It receives less segmental veins than the *posterior cardinal*, as the first site of the heart is in that portion which later becomes the neck of the embryo.

Jugurtha (*d.* 104 B.C.), a Numidian king, natural son of Mastanabal and grandson of Masinissa. He was brought up by his uncle, Micipsa, who left his kingdom (118) to J. and his two sons, Hiempsal and Adherbal. J., greedy for supreme authority, determined to get rid of his cousins, and assassinated Hiempsal. The Roman Senate decreed that the kingdom should be equally divided between J. and Adherbal, but in 112 the former had Adherbal put to death. War was now declared between Rome and Numidia, J. having attacked the Italian inhabitants of Cirta. J. drove the Roman troops out of his kingdom (110), and in the following year fresh troops were sent from Rome, under Quintus Metellus, who was victorious at Nuthul. Metellus was superseded by Marius in 107; J. now made an *alliance with* [illegible] chus, and on t defeated, witl the interior. with Rome b and delivered J. up in chains to Sulla, the quæstor (106). Marius led his prisoner in triumph through Rome, and afterwards threw him into a dungeon to die. The history of the Jugurthan War was written by Sallust.

Ju-jitsu, Jiu-jitsu, or Ju-jutsu are various ways of spelling the English form of a Japanese word signifying the national art of self-defence without weapons. The word means 'muscle-science,' or is sometimes translated as 'to conquer by yielding,' from the Japanese word *ju* (pliant); the latt [illegible] certainly a good art, whatever its

The story that J. was founded by a Japanese physician who brought it from China is probably not true; it is usually considered that the art was known and practised as early as the 7th century B.C. Until the break-up of the feudal system in Japan, J., or as it was also called, *shinobi* or *yawara*, was a secret art practised only by the *samurai*, the aristocracy of Japan. By means of this knowledge they asserted their superiority over the common people even when deprived of their swords, which they alone were allowed to carry. Since the change in the constitution and methods of Japan took place, however, the art has been taught to all who wish to learn. It is generally taught in the schools, is compulsory in the army, the navy, and the police, and the national society of J. has a great and growing membership. In the beginning of the 20th century J. began to attract the attention of other nations. Schools were started in Europe, the U.S.A., and in Great Britain, and it may be said that the knowledge of the art is undoubtedly spreading in all these countries. Broadly speaking, J. may be said to be the apotheosis of *laissez-faire*, but in a somewhat different sense from the usual; the triumph of J. consists in letting one's antagonist do all the work, and in turning his own strength against himself. He rushes blindly to his undoing, and the greater his strength and power, the greater is his fall. Imazo Nitobe says that it is 'the application of anatomical knowledge to purposes of offence and defence, differing from wrestling because strength is not required, and from other forms because no weapons are needed. Its feat consists in clutching or striking such part of an enemy's body as will render him much greater among Japanese than among Europeans. In boxing, for instance, we recognise such points as the solar plexus, and the point of the jaw as being particularly vulnerable, and the peculiarity of the 'funny-bone' is universally known. But the Japanese J. experts know many more points which cause temporary paralysis of the parts affected when struck, among which may be mentioned the arm-pit, the ankle and wrist bones, the tendon running down from the ear, the Adam's apple, the nerves of the upper arm, etc. If J. has to be prac- [illegible] d in serious extremities, and all combatants' resources are called , or if the match taking place is very serious, any hold is permissible, and a broken or badly sprained limb is the least that may be expected by the defeated. In practice and the teaching of the art such extreme measures are of course undesirable, and when one of the combatants finds himself in a position in which he could be disabled if he resisted, he signals defeat by striking his hand on the floor, and a fresh bout is begun. In this may be seen the essential difference between wrestling and J.;

in the latter there is no set position into which the defeated competitor must be placed, as his arm or leg may be broken in any position. In this respect J. may be compared to the *pancratium* of the Olympic games, when one competitor had to admit defeat. A bout at J. begins as follows: The competitors take hold with both hands of the collar of each other's jacket or kimono, and on the word being given they manœuvre by means of pushing, jerking, falling, etc., to obtain a winning grip. Very often the only way of escape from a grip is to fall down, or be thrown down, but this does not necessarily mean defeat, as the greater part of the bout will as a rule take place on the floor. It is a prevalent error that most of the 'falls' and 'holds' in J. are extraordinarily complicated, and need to be learnt in a mechanical fashion. As a matter of fact, a few simple principles govern all the practice of the art; a knowledge of anatomy (*vide supra*), and an ability to fall without injury, combined with constant application and attention, will carry a pupil far. The qualities required are quickness, suppleness, and a good balance; stiffness is the unpardonable sin in J. As with many other sports, the training necessary for success in J. is one of the most valuable things associated with it. A light and nourishing diet only should be taken, deep breathing should be practised, and plenty of fresh air and sleep secured, and moderation in all things should be observed. Training for J. cannot begin too early; in Japan many children are brought up from childhood in the practice of the art. Women are trained in it also, and often compete on equal terms with men. It has often been attempted to match J. experts against wrestlers, but the results have not been satisfactory. Most of the J. holds are fouls from a wrestling point of view, and the blow with the flat hand, which is largely used in the former science, is barred in the latter. The Japanese have generally held their own, however, even when debarred fr practices, and there is no do as an accomplishment for the 'man in the street' to defend himself in an emergency, J. is pre-eminent. Unfortunately the 'man in the street' is not wont to equip himself against any emergency until too late. *See* H. J. Hancock, *Japanese Physical Training*, 1904; Skinner, *Ju-jitsu*, 1905; S. K. Uyenishi, *Ju-jitsu*; Mrs. R. Watte, *Ju-jitsu*, 1906; H. J. Hancock, *Complete Kano Ju-jitsu* (Juido), 1905; K. Saito, *Ju-jitsu Tricks*, 1905, etc.

Ju-ju, a word used by the Africans of the Guinea Coast to denote any kind of fetish. It may have been adopted from French *joujou*, a toy, or corrupted from Mandingo *gru-gru*, a charm. The word, besides denoting the shrine, idol, or charm in which a spirit was supposed to dwell, was applied to the spirit itself, and hence loosely to witchcraft, savage rites, and customs characteristic of the negroes. The 'Long Ju-ju' of the Nigerian Aros was a sacred shrine where human beings were sacrificed until the British interfered (1901-2). *See* De Cardi's 'Ju-ju Laws and Customs' in *Jour. Anthrop. Inst.*, Aug.-Nov. 1899.

Jujube, the name of several plants of the genus *Zizyphus* in the order Rhamnaceæ, which consists of shrubs and small trees found in the tropics. Many of the species bear edible fruits, and these are sometimes dried and used as sweetmeats. *Z. vulgaris*, the common or French J., flourishes in the East and produces a small red or yellow fruit; *Z. Lotus*, the lotus, bears a small sweet fruit said to be the lotus fruit known to antiquity; *Z. Spina-Christi*, Christ's Thorn, is fabled to have yielded the crown of thorns. The confection known as J. is made of gum arabic or gelatine, glycerine, and pure sugar, and is flavoured like the J. fruit.

Jujuy: 1. A prov. of Argentina, situated in the N.W. of that republic, and having Bolivia on its northern and western sides. Its area is 18,977 sq. m. Part of the surface is mountainous, rising to a height of over 15,000 ft. The state is rich in mineral wealth, but very little has been done to work the mines. Pop. 62,413. 2. Cap. of the above prov., and connected by rail with Buenos Ayres. It is the chief means of transit to Bolivia, and possesses a national college and a school for girls. Pop. 5100.

Jukes, Joseph Beete (1811-69), an English geologist, born at Summer Hill, near Birmingham, and educated at St. John's College, Cambridge. He had studied geology under Sedgwick, and was appointed geological [illegible] undland (1839-40). [illegible] an expedition to [illegible] Guinea, and the E. coast of Australia, and on his return to England in 1846 was sent by the Geological Survey of the United Kingdom to survey N. Wales, becoming [illegible]y in Ireland in [illegible] his subject at [illegible] a valuable textbook, *The Student's Manual*. His other writings include *Excursions in and about Newfoundland*, 1842, and *A Sketch of the Physical Structure of Australia*, 1850. His *Letters* were

edited by his sister, C. A. Browne, in 1871.

Julfa, a suburb of Ispahan in Persia.

Jülg, Bernhard (1825-86), a German philologist, born at Ringelbach in Baden. After completing his studies in philology, and holding various other posts, he was appointed in 1851 professor of classical philology at Lemburg. In 1853 he became a professor at Cracow University, and in 1863 at Innsbruck, distinguishing himself, not only in his knowledge of philology, but also in that of the folklore of various countries. Among his publications are: Vater's *Litteratur der Grammatiken, Lexika und Wörtersammlungen aller Sprachen der Erde*, 1847; *Die Märchen des Siddhi-Kür*, 1866.

Julia, the name of several Roman women of rank, belonging to the Julia Gens: 1. Sister of Julius Cæsar, the wife of M. Atius Balbus, and the grandmother of Augustus. 2. (*d.* 54 B.C.) Daughter of Julius Cæsar by Cornelia. She married Pompey in 59. 3. (39 B.C.-14 A.D.) Daughter of Augustus by Scribonia. In 25 she married her cousin, M. Marcellus, who died two years later. She then married M. Agrippa, by whom she had five children, Caius and Lucius Cæsar, Agrippa Postumus, Julia, and Agrippina. Her third marriage in 12 B.C. was to Tiberius Nero, who was afterwards emperor. In 2 B.C. Augustus banished her to Pandataria, an island of Campania, on account of her adulteries, and she was subsequently removed to Rhegium, where she died. 4. (*d.* 28 A.D.) Daughter of the above, and wife of L. Æmilius Paulus. Like her mother, she was notoriously immoral, and was banished by Augustus to Tremerus, an island off Apulia, in 9 A.D. 5. The youngest daughter of Germanicus [illegible] by Claudius [illegible] Messalina. [illegible] Drusus and [illegible] cus, also killed by Claudius at Messalina's instigation.

Julia Gens, a famous patrician family of ancient Rome. It claimed descent from Julus (sometimes called Ascanius), the son of Æneas and grandson of Venus and Anchises. Julus is supposed to have founded Alba Longa, so that the family came of Alban stock. On the destruction of that city the J. G. was removed to Rome by Tullus Hostilius.

Julian (Flavius Claudius Julianus), surnamed the **Apostate** (331-63), a Roman emperor, born at Constantinople, being the youngest son of Julius Constantius and Basilina, and the nephew of Constantine the Great. On the death of Constantine in 337, at the instigation of his three sons, a terrible massacre took place in which J. and his elder half-brother, Gallus, alone escaped out of their kinsfolk. J. was educated under strict supervision at Nicomedia, until 344, when he and his brother were removed to Macellum in Cappadocia. In early life he became greatly attached to Greek culture, and accepted the Greek religion with its philosophy. In 355 J. was created Cæsar at Milan by the Emperor Constantius II., whose sister Helena (*q.v.*) he married. Thereupon J. was entrusted with the government of Gaul, and in 357 won a great battle against the Alamanni at Strassburg. He took up his residence in Paris, wisely administered the laws, and relieved the people of some of the heavy taxes. The emperor, becoming jealous of his increasing popularity, bade him lead his troops against the Persians, whereupon his soldiers proclaimed him Augustus (360). Constantius opportunely died in 361, and J. was universally acknowledged his successor. He now openly declared his apostasy, and proclaimed universal toleration within his realms; but he deprived the church of its former privileges, forbade Christians to teach rhetoric, and in the offices of state gave preference to pagans. Before long, he made great preparations for an invasion of Persia, and [illegible] misled by the treachery of a Persian nobleman who advised him to march inland to meet the forces of Shapur II. His men suffered terribly from thirst and were overcome by the heat. During the battle, J. fell, and as he died, is supposed to have cried out, 'Thou hast conquered, O Galilean.' His extant writings are *Cæsares or Misopogon*, eight *Orations*, a series of *Letters*. His [illegible]ων, an attack on Christianity. Consult the editions of Spanheim (1696) and Hertlein (1875-76); Gibbon's *Decline and Fall* (chs. xix., xxii.-xxiv.); Alice Gardner, *Julian, Philosopher and Emperor*, 1895; Allard, *Julien l'Apostat*, 1903; and Ibsen's drama (Eng. trans.), 1876.

Julian Calendar, Epoch, *see* CALENDAR, CHRONOLOGY.

Julianus, Salvius (*b. c.* 100 A.D.), a celebrated Roman jurist, who lived during the rule of Hadrian and the Antonines. By order of Hadrian, he was entrusted with the work of drawing up the *edictum perpetuum* from the immense mass of laws and prætors' edicts which existed at the time. His other works include *Digestorum Libri XC.*, *Ad Minicium*, and *De Ambiguitatibus Liber Singularis*. He held

the position of præfectus urbi, and was twice consul.

Jülich, a tn. in the Rhine prov., Prussia. It is situated 18 m. N.E. of Aix-la-Chapelle, and was originally the capital of the duchy of the same name, but became part of Prussia in 1814. The chief manufs. are leather, sugar, and paper. Pop. 6620.

Jülicher, Gustav Adolf (*b.* 1857), a German professor of theology, and N.T. scholar, born at Falkenberg near Berlin, and educated at the Berlin University. In 1888 he was appointed professor of N.T. history at Marburg. His principal publications are *Die Gleichnisraden Jesu*, and *Einletung in das Neue Testament*. J. is one of the foremost living critical and exegetical scholars.

Julien, Stanislas Aignan (1799-1873), a French Orientalist, born at Orleans. At the age of twenty-one he became an assistant professor of Greek at the Collège de France, and had a wide knowledge of modern European languages. He began to study Chinese, and from 1824-26 published a Latin translation of Mencius (Mang-tse). In 1832 he was appointed professor of Chinese at the Collège, and became keeper of the Royal Library (1839) and head of the Collège Impériale (1854). His works include French versions of *Holi-lan-ki* (The Circle of Chalk), 1832; *Tchao-chi-kou-cul* (The Chinese Orphan), 1834; *Voyages du pélérin Hiouen-tsang*, 1853; and a *Syntaxe nouvelle de la langue Chinoise*, 1869.

Julier Pass, one of the Alpine passes, situated in the canton of Grisons, Switzerland. It connects the Rhine Valley and the Upper Engadine, and has an altitude of 7500 ft. There is now a railway tunnel under Albula Pass (opened 1903), superseding the old route.

Julius, the name of three popes:

Julius I. (337-52). In the Arian controversy he supported Athanasius, with whom he was deposed by the Eastern bishops at Philippopolis.

Julius II. (*Giuliano della Rovere*) (1503-13), a nephew of Sixtus IV., born at Savona in 1443. During his uncle's pontificate he received many honours, and was sent as legate to France (1480), where he acquired great political influence. On his election to the pontificate he recovered Romagna from the Borgias, and devoted all his energies to suppressing

Louis (1510). J. condemned duelling (1509) and simony (1513); sent missionaries to India, Africa, and America; and was a liberal patron of the fine arts. Consult his *Life* by Dumesnil (1873), and Brosch (1878).

Julius III. (*Giovanni Maria del Morte*) (1550-55), born in 1487. He was one of the three legates under whom the Council of Trent was opened. He sent Cardinal Pole to England to negotiate with Mary for the restoration of her kingdom to Rome. He was by nature pleasure-loving, and was guilty of the charge of nepotism. Consult Ranke's *History of the Popes*, and L. Pastor's *History of the Popes* (Eng. trans.), 1898.

Jullien, Louis Antoine (1812-60), a musical conductor, born at Sisteron, Basses Alpes, France. He became a conductor of concerts in Paris (1836), came to London (1839) where he established promenade concerts, and travelled in the British Isles and America. His light, attractive concerts drew large audiences, and his 'Monster Quadrilles' were very popular. He became bankrupt (1857) and ultimately returned to Paris, where he was arrested for debt (1859) and died insane.

Jullunder, *see* JALANDHAR.

Julus, or **Iulus**, a genus of myriapods of the order Chilognatha, and the species are often known as gally-worms. The number of body segments varies between forty and fifty, many of which have two pairs of legs.

July, the seventh month of the Christian calendar. In the Roman calendar it was the fifth month and was therefore called *Quintilis*. In honour of Julius Cæsar, whose birthday fell on the 12th, it was named *Julius* in the last year of his life. The feasts of St. Swithin and St. James fall on the 15th and 25th respectively. During the month the sun leaves Cancer and enters the sign of Leo; Dog Days begin on the 3rd.

Jumet, a tn. in the prov. of Hainault, Belgium, 3 m. N. of Charleroi, and is noted for its glass works and coal mines. Pop. 26,800.

Jumièges, Robert of, was born in Normandy and came to reside in England as a follower of Edward the Confessor. In 1044 he became Bishop of London, and in 1051 Edward appointed him Archbishop of Canterbury. He was a firm friend of the king's, but opposed to Earl Godwin, and on the latter's return from exile to flee to Jumièges, where

Louis
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William of, was a Norman monk, and is remembered on account of his work of compiling a history of the dukes of Normandy down to 1071. This book, written in

Latin, is in J. P. Migne's *Patrologiæ Cursus Completus*.

Jumilla, a tn. in the prov. of Murcia, Spain, situated about 37 m. N.W. of Murcia. Its chief productions are wine and brandy. Pop. about 16,000.

Jumping, *see* ATHLETICS.

Jumping Hare, or *Pedetes Caffer*, called by the Dutch Spring Haas, a rodent of S. Africa and a member of the family Pedetidæ, being the only species of the genus *Pedetes*. The head of the animal resembles that of a hare, but its general appearance and movements are like those of a jerboa, though it is larger. It is, in fact, placed by some zoologists in the same family as the jerboas (Dipodidæ). Its chief characteristics are its long tail, five toes on the fore feet and four on the hind, and hind limbs much longer than the fore limbs, thus enabling it to make immense leaps. It is also a nocturnal animal.

Jumping Mouse, or *Zapus Hudsonius*, a member of the jerboa family (Dipodidæ) and a native of N. America. It resembles a mouse, having a long tail and its hind limbs longer than the fore limbs, enabling it to leap in the same way as the other species of Dipodidæ.

Junagarh: 1. A state, situated on the Kathiawar Peninsula, Bombay, India. The chief products are cottons and cereals. Area 3283 sq. m. Pop. about 400,000. 2. The cap. of the above state, situated on the Rajputana Railway. The town contains several features of interest, among them an old citadel and some Buddhist caves. Pop. about 34,200.

Juncaceæ, an order of monocotyledons, is so named from its chief genus, *Juncus*, which contains the rushes. There are 200 species, most of which are obscure herbaceous plants growing in colder parts of the world. The inflorescence is cymose and consists of hermaphrodite flowers; the perianth is sepaloid and in two whorls of three, the stamens are in two whorls of three or only the outer whorl may be present, the ovary is superior and consists of three united carpels usually containing numerous ovules; the fruit is a loculicidal capsule.

Juncaginaceæ, an order of small and unimportant monocotyledonous plants, is found in temperate lands, and consists of four genera of marsh-herbs. The inflorescence is racemose, with hermaphrodite flowers; the perianth is sepaloid and in two whorls of three, the stamens are in two whorls of three and have introrse anthers, the ovary is superior and consists of six carpels in two whorls; there is a single ovule in each carpel, and the fruit may be an achene or a schizocarp. The chief genus is *Triglochin*.

Junction City, the co. seat of Geary co., Kansas, U.S.A., between Republican and Smoky Hill Rivers. It is an important agricultural centre. Pop. (1910) 5598.

Juncus, the chief genus of Juncaceæ, contains over 160 species, eighteen of which occur in Britain. These rushes are cosmopolitan in distribution and frequent damp, cold localities; in habit they are rigid, with slender stems which may contain pith or may be hollow; the flowers are small, green or brown in colour, and are borne in dense heads or panicles; fertilisation is effected by means of the wind. The economic importance of *J.* is slight; *J. squarrosus* forms a pasturage for sheep in hilly districts of Britain; other species are used to fix the soil on river-banks; chair-bottoms, matting, and baskets are made from the long, flat leaves, and the pith forms the wick of rush-lights still used in Europe and in China.

June, the sixth month of the Christian calendar. According to Ovid it was named after Juno (*q.v.*), the guardian of women, her month being regarded as favourable for marriage. In the Roman calendar it was the fourth month and originally had twenty-six days, but later twenty-nine; to these Julius Cæsar added one at the time of his reform of the calendar. The sun leaves the sign of Leo during the month and enters Cancer. The days of St. Barnabas and St. Peter are on the 11th and 29th respectively. Midsummer day falls on the 24th.

Juneau, the cap. of Alaska, U.S.A., and is situated opposite Douglas Is. on Gastineau Channel. It exports gold, furs, and curios, and is a large mining centre, being close to the Treadwell gold mine and the Silver Bow mine. Pop. (1910) 2500.

Jung, Sir Bahader (1816–77), Prime Minister of Nepal, was, after the death of his uncle, who held an important position in Nepal, himself promoted to a high office. Through his own efforts, however, in 1846 he made himself Prime Minister and banished the king and queen from the country. He received a knighthood for his assistance rendered to the British during the Indian Mutiny (1858).

Jung, Johan Heinrich, *see* STILLING, JOHANN HEINRICH.

Jung, Sir Salar, *see* SALAR JUNG.

Jungbunzlau, a tn. of Bohemia, Austria, 45 m. N.E. of Prague; manufs. cottons, woollens, glass, and sugar. Pop. 16,340.

Jungermannia, a genus of liver-

worts which received its name in honour of the German botanist, Jungermann. The species are moss-like and are known popularly as scale-mosses; several have been found fossil.

Jungfrau (Ger. maiden), one of the heights in the Bernese Alps, situated about 7 m. W. of the Finsteraarhorn on the boundary of the canton of Bern. Its height is 13,670 ft., and it seems to have received its name from the pure whiteness of its snow-clad peak. It was climbed in 1811 by the brothers Meyer, and since then several others have accomplished the feat. There is now being constructed a railway to reach to the summit of the mountain, most of the line being through a tunnel.

Jungle (Sanskrit *Jangala*, desert), the name applied to tracts of land which are thickly covered with trees or shrubs, made nearly impassable by tall grasses and undergrowth. The soil is, as a rule, marshy, and these Js. are inhabited by beasts of prey, snakes, and monkeys.

Jungle-fowl, the name applied to birds of the genus *G.*, to which belong four species. *G. ferrugineus*, the Red J., is generally considered to be the origin of domesticated poultry. Its back is purplish-red and orange, while the under surface wings and tail are greenish-black tinged with yellow. It is a native of India, Sumatra, the Philippine Is., and the Celebes, and is pugnacious towards its own kind, while the noise of both cock and hen is said to resemble that of ordinary domestic varieties. The other species of the genus are: *G. sonnerati*, the Grey J., a native of Southern, Central, and Western India; *G. Varius*, found in Java; and *G. lafayettii*, a native of Ceylon.

Junia Gens, a family of ancient Rome, of which Lucius Junius Brutus, who expelled the kings, and Brutus, Cæsar's murderer, were members.

Junin: 1. A dept. of Peru, traversed by the Andes Mts. In this dept. is the Lake of Junin or Chinchaycocha, situated at an elevation of 13,000 ft., and drained by the R. Montaro. The dept. is rich in minerals, including silver. Area 23,347 sq. m. Pop. 394,393. 2. A tn. situated in the dept. of Junin, Peru, 100 m. N.E. of Lima, standing at an elevation of 13,000 ft.

Junina, the prin. trib. of the Upper Ganges, India. It rises in the Himalayas at an elevation of 12,000 ft., and pursues first an easterly and then a south-easterly course through the United Provinces, and at a distance of 3 m. below Allahabad joins the Ganges. This river, which is about 860 m. in length, feeds the Eastern and Western Junina Canals, and has several important towns on its banks, among them, Delhi, Agra, Firozabad and Allahabad.

Juniperus, a genus of coniferous plants containing thirty species, all of which are evergreen trees or shrubs and flourish in the N. hemisphere. The leaves are small, needle-shaped, and occur either as opposite leaves or in whorls of three or four; occasionally they are imbricated in four rows. The flowers are diœcious; the males form a scaly catkin and the females a small rounded cone which later develops into a fleshy fruit, known as a *galbule*, in appearance greatly resembling a true berry. *J. communis*, the common juniper, flourishes in Great Britain as well as in other parts of N. Europe and Asia; the stem and leaves contain an aromatic principle; the blue-black fruit is used
flavouring of
red cedar of
a valuable wood used by turners and cabinet-makers, and it is also employed in making lead pencils and cigar boxes; *J. Bermudiana* serves like purposes. *J. Sabina*, the savin, grows in S. Europe, and the topmost twigs of the plant are used in pharmacy.

Junius, Letters of, a literary curiosity of the 18th century—a curiosity because, in spite of ingenious surmises and the most thorough and persistent perusal of contemporary documents, the identity of the author is still doubtful, and it is as true to-day as at the hour of their publication that—to quote his own words—'the mystery of Junius increases his importance.' The letters, seventy in number, appeared in the London *Public Advertiser*, between Jan. 21, 1769, and Jan. 21, 1772. During this period the writer invariably used the pseudonym of Junius, though he had at different times availed himself of others, 'Lucius,' 'Brutus,' and possibly of 'Nemesis.' His object was clearly to run the Duke of Grafton's ministry, and in fulfilment of that purpose he used the weapon which nature had given him, namely satire of the most brilliant and deadly description. The Marquis of Granby, the Duke of Bedford, and Lord Chief Justice Mansfield, were each in turn the victims of his powerful and vilifying invective, but the most violent of Junius's onslaughts were naturally reserved for their leader, the ineffectual Grafton. Moreover, the author profited by his disguise or rather invisibility, to speak some

frank abuse of the king; indeed, it was the impudent epistle he addressed to George III. which excited a veritable storm of indignation, and at the same time sealed the writer's fame. But Junius was defeated in his aims; for the fall of Grafton (1770) was only the signal for the advent of Lord North and his tedious administraion. Perhaps Junius deserved no better; for although he was a loyal and active supporter of Chatham he showed no political acumen in the steps he took towards restoring him to power. A modern reader of the 'Junius' polemics will be struck with their scurrility and venom; let him remember that these were fashionable qualities in similar writings of the day. But he will be far more permanently and sincerely impressed by the vigour and dignity of their style. The careful rounding off of the lengthy periods, and a certain typically 18th century pomposity, prove the author to have been an earnest admirer of the Ciceronian tirades, yet, in spite of his indebtedness to classical models, Junius, whoever he was, had a command over language which was original as well as splendid. There are cogent arguments in favour of regarding Sir Philip Francis as the unfathomable Junius, but the claims of a host of far more distinguished men, including Burke, Lord Chatham himself, Wilkes, Barré, and Horace Walpole, have one and all found eager partisans.

Junius, Franciscus (1545-1602), born at Bourges in France. He is best known by his own edition of the Latin O.T., slightly altered from the former joint edition, and with a version of the N.T. added.

Junius, Franciscus (1589-1678), son of the above, born at Heidelberg. He was brought up in Holland, but in 1620 went to England, where he became librarian to the Earl of Arundel. He was a student of Anglo-Saxon, Gothic, etc., and published the Gothic version of the Gospels, *De Pictura Veterum*, and *Etymologicum Anglicanum*, a valuable work.

Junk, a flat-bottomed, sea-going boat peculiar to China, which is employed on the coasts and seas of China and Japan. It carries large masts with square sails of matting, and has a very high forecastle and poop. Its progress is slow, and it is awkward to handle.

Junker, Wilhelm (1840-92), a German explorer of Africa, born at [illegible] cow. He studied medicine in [illegible] tingen, Berlin, and Prague, but going to Africa in 1874, began the work of his life, exploration. He visited Tunis and Egypt, and explored the Upper Nile and the Welle, investigating at the same time the people, plants and animals with whom he came in contact. In 1883 he was prevented from returning to Europe owing to the Mahdist rising, but managed to reach Zanzibar in 1886, and received the gold meal of the Royal Geographical Society in 1887. His *Reisen in Afrika* (3 vols., Vienna, 1889-91) contains an account of his travels and is a work of high merit. An English translation by A. H. Keane was published in 1890-92.

Junkers, the political party name given in Germany to the class of young nobles of military spirit who supported Bismarck before the Franco-Prussian War.

Juno, a Roman goddess, equivalent to the Greek Hera. She was the daughter of Saturn and Rhea, and the wife and sister of Jupiter. She was regarded as the counterpart of Jupiter, the queen of heaven and of earth. She was the protectress of all women, from the moment of birth till death. Hence, *Juno Natalis* was invoked by women on their birthdays; at the marriage of women *Juno Julalis* presided; and the help of *Juno Lucina* was cried for by women in childbed. Her festival called the *Matronalia* was celebrated on March 1. The month of June was called after her, and was thought particularly lucky for marriages. She was also regarded as the guardian of finance, a temple being dedicated to *Juno Moneta* in 344, which was afterwards used as a mint. She was always represented with attendant peacocks.

Juno, the third asteroid to be discovered, was found by Harding in 1804, the first, 'Ceres,' being found by Giuseppe Piazzi, 1801, and the second, 'Pallas,' in 1802 by Olbers. Juno and Ceres are the largest of the planetoids, and present at opposition a visible disc about 1 in. in diameter, corresponding to about 400 m.

Junot, Andoche, Duc d'Abrantès (1771-1813), a French general, born at Bussy-le-Grand, in Côte-d'Or. He joined the volunteer army at the outbreak of the Revolution, and came under the notice of Napoleon at the siege of Toulon. He distinguished himself in many campaigns, and in 1804 was made governor of Paris. In 1807 he was appointed to command the army for the invasion of Portugal, and was so successful that he was created Duc d'Abrantès, and made [illegible] de- [illegible] and [illegible] He afterwards served in Germany and Russia, but being blamed, with others, for the great Russian disaster, was sent to govern Illyria. This, added to his other misfortunes, brought on

mental derangement, and he took his life in a fit of madness.

Junot, Laurette de Saint-Martin-Permon, Duchesse D'Abrantès (1784-1838), wife of the marshal, was an able, extravagant, and intriguing woman. Her estates being confiscated in 1814, the Emperor Alexander offered their restoration on condition of her becoming a naturalised Russian. She refused and remained in Paris, supporting herself by the labours of her pen. She gained a reputation by her *Mémoires*, 1831-35, and also published *Femmes Célèbres*, 1833-35, and *Histoire des Salons de Paris*, 1837-38.

Junta, a Spanish word designating a legislative or other distinguished assembly which meets either for political purposes or for the passing of laws. In 1808 a J. was elected to undertake the defence of the country (Spain) against Napoleon. In English history the word is used as a term of contempt for a legislative party, etc., *e.g.* the Whig junto in the reigns of King William III. and Queen Anne.

Jupiter, or **Jove**, a Roman god equivalent to Zeus of the Greeks. He was saved as an infant by his mother Rhea from his father Saturn, who swallowed his male children immediately after birth. J. married his sister Juno. He was regarded as an elemental god, his name being contracted from Diespiter or Diovispater. He was the greatest of all the Olympian gods (Optimus Maximus) and was lord of hea
with his
was call
Tonans, Fulminator, having power over rain, tempests, thunder and lightning. His temple at Rome stood on the summit of the Capitol, and when presiding over the Roman games he was called Jupiter Capitolinus. He was also known as Jupiter Latiaris, being patron of the Feriæ Latinæ. J. directed the course of human affairs, and was regarded as omniscient and prescient. He revealed the future by means of omens and signs, and was therefore designated as Prodigialis. His blessing was always invoked by the consuls on entering office and before any great undertaking. His worship at Rome was under the care of the Flamen Dialis, the highest in rank of the *flamines*. He was represented as sitting on a throne with thunderbolts in one hand and in the other a sceptre of cypress. He was supposed to take delight in the sacrifice of white bulls, goats, and sheep.

Jupiter, the largest of the planets, and (if the sun, moon, and comets be excluded) the second brightest object in the sky (having about six times more lustre than Sirius, the brightest star), is one of the outer planets, and its orbit lies between those of the minor planets and that of Saturn. J.'s mean distance from the sun is five times that of the earth (483,000,000 m.), and its period is 11·86 years. Other data of the planet are as follows: Diameter, eleven times that of the earth (88,439 m.); mass, less than one-thousandth of the sun; density, slightly denser than water. the earth being four times as dense; rotation about axis, about ten hours; and gravitational pull at surface, 2·55 times more than the earth. J. is attended by eight satellites, four of which are just beyond the range of naked vision, but can easily be seen with the aid of a pair of opera or field-glasses. These four moons were discovered by Galileo in Jan. 1610, being one of the first-fruits of the newly-invented telescope. It was not till Sept. 1892 that Prof. Barnard, at the Lick Observatory, found a fifth satellite revolving between these four and J. Three more moons were discovered as follows: two by Perrine at the Lick Observatory, 1904-5, and one by Melotte at Greenwich, 1908. These recently discovered satellites can only be seen by high power instruments, but quite a small telescope will show the transits in front of J. of Galileo's moons and their eclipses in his shadow. The smallest of Galileo's satellites is nearly as large as the moon, and
nearly hal
periods of
Barnard's,
3½, 7¼, and 16¾ days; Perrine's, 251 and 265 days; and Melotte's, 2 years. This latter satellite has a mean distance of 15,000,000 m. from J., and the direction of its revolution is opposite to that of all the other satellites. The surface of J. presents the appearance of a number of belts, and they can be detected with the aid of a small telescope. The surface of the planet is continually changing, but since 1878 the equatorial belt has had a large red spot. This spot has varied in brightness, and was just visible in 1907. It has been found that the belts or currents rotate at different velocities. These differences go to prove that J. is not a solid body, and the permanence of the red spot also favours this conclusion. The red spot would appear to be something in the nature of a floating island, an island having its base in the more solid regions of the planet. *See* Astronomy.

Jura (Scandinavian *deor-oe*, deer island), an island of the Inner Hebrides, Scotland, off the coast of Argyllshire. It is separated from

Scarba on the N. by the whirlpool of Corrievreckan, from Islay on the S. by the Sound of Islay, and from the mainland on the E. by the Sound of Jura. The greatest length is 27 m., the width varying from ¼ m. to 8½ m. Area 160 sq. m. It has a range of mountains culminating in the conical Paps of Jura (2751 and 2412 ft. high). The inhabitants are engaged in fishing, agriculture, and the raising of live stock. Pop. (1911) 570.

Jura, a dept. of France, originally part of Franche-Comté, having Switzerland for its eastern boundary. The dept. consists of a mountainous region, traversed by the Jura Mts., a vine region, and a plain situated in the W. The chief rivers are the Doubs and the Ain, both of which belong to the basin of the Rhone. The soil is fertile, and produces grain, the vine also being largely cultivated. The chief minerals are iron, coal, marble, and rock-salt, while the industries comprise the manufacture of watches and clocks, and the making of Gruyère cheese. Cap. Lons-le-Saunier. Area 1951 sq. m. Pop. 252,713.

Jura Mountains. This range of mountains extends for about 190 m. from the dept. of Ain in France in a north-easterly direction through Switzerland, traversing the cantons of Vaud, Neuchâtel, and Bern to the R. Rhine. They are made up of parallel ranges, the chief heights in which are Crêt de la Neige (5655 ft.), situated W. of Geneva, the Dôle (5505 ft.), Colombier de Gex (5548 ft.), and Mont Tendre (5519 ft.). These mountains consist chiefly of limestone, known as Jurassic, a term applied to the whole system in this division of geology owing to the preponderance of this limestone in these particular mountains. The mountains are covered with forests and interscected with fissures.

Jurassic System, The, is the middle system of the Mesozoic or secondary group, and separates the Cretaceous system above from the Triassic

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give their name to the system; more or less isolated patches occur in Central and N. Russia, in the Crimea, Caucasus, Carpathians, etc.; though [illegible]ss complete in [illegible]s an important [illegible]ch in reptilian [illegible] of the system occur throughout India, S. Africa, S. America, and Australia. In S. Britain the J. S. lies to the N. and N.W. of the Cretaceous deposits running in a curving line from the N. of Yorkshire (valuable ironstone in Cleveland) through W. Lincolnshire, widening out near Northamptonshire, thence to S. Gloucestershire and to Dorset (with the useful Bath and Portland 'freestone'). [It was long ago remarked by Dr. Buckland that a line through England from the mouth of the Tees to the coast of Dorset corresponding to the base-line of the J. S. would divide the country into two dissimilar parts contrasting strongly in physical and economic aspects.] Only very small areas occur in the rest of Britain, as in Sutherland and the Island of Skye in Scotland, and near Lough Foyle in Ireland.

Formations of the Jurassic system.—The subdivision into formations has extended from the first separation into Oolites and Lias until the following classification has been made, partly based on the original British species, but applicable over much wider areas.

Upper (Portland) Oolites	Purbeckian, Portlandian, Kimmeridgian
Middle (Oxford) Oolites	Corallian, Oxfordian, Callovian
Lower (Bath) Oolites	Bathonian, Bajocian
Lias	Toarcian, Liassian, Sinemurian

These subdivisions have been further divided by Von Mosjsovics into zones characterised by different forms of ammonites, 32 in all, with 14 in the Lias, 8 in the Lower Oolites, 6 in the Middle Oolites, and 4 in the Upper Oolites. Other classifications give the Upper and Middle Oolites together under the name of *Malm*, and the Lower Oolites as *Dogger*. In Germany the Lias is spoken of as *Black Jura*, the Lower Oolites and part of the Middle as *Brown Jura*, and the remaining part of the Middle together with the Upper Oolites as the *White Jura*.

Characters of the strata.—The rocks of the J. S., like those of the Lower Cretaceous system (*q.v.*), may be regarded as having been deposited during the first shallow-water phase of the third marine period, but this phase was marked by very varied marine changes resulting in very diverse strata. The Lias is essentially a clay formation with occasional band of limestone and ironstone of varying thicknesses; in the Lower Oolites the bands of clay are only subordinate to the highly developed limestones, but the Middle and Upper Oolites form an argillaceous series again, the lime-

stone being discontinuous and sometimes absent. Viewed br
Jurassic rocks are of three
deposits, viz. Lias, Oxford, and Kim
meridge clays alternating with the other deposits of varied lithological character. This argillaceous character of the system is frequently overlooked on account of the greater variety of fossil remains in the non-argillaceous deposits.

Life of the Jurassic period.—The rate of change in the organic world and the differentiation of species appears to have become much more rapid in Jurassic times, so that separate descriptions are required for quite small sets of strata. Broadly, it was *an age of Reptiles*, e.g. *Dinosauria*, *Pterosauria* (commonly known as *Pterodactyls*), *Ichthyopterygia*, and *Sauropterygia*, which survived to Cretaceous times. Dinosauria were land animals from 20 to 40 ft. long, and doubtless resembled the modern kangaroo in method of walking. Pterosauria were capable of flight, while the other two orders were adapted for life in the sea. True birds appear, though none have hitherto been discovered in the British Jurassic rocks. The two specimens from the Solenhofen slate of Bavaria, *Archæopteryx macrura*, have been placed in a special order, *Saururæ*, of their own. Marsupials appear for the first time. The period is noted for a great abundance and variety of *Ammonites*, while *Belemnites* appear in the Lias and reach a maximum development in Jurassic times. Several species of the genera of Lamellibranchia were abundant, as were also the true *Echinids*. Corals abound in most of the limestones. The flora is of such a nature that botanists have termed the Jurassic period *the age of Cycads*. Ferns continued common, and conifers were represented by genera allied to the modern *Araucaria* cypress and yew. The general resemblance of the flora and fauna of Jurassic times to modern Australian flora and fauna lends support to Wallace's theory that Australia was severed in Mesozoic times, and its isolation has furnished a local survival of a once widespread series of organisms. The actual existence of genus *Trigonia* (characteristic of Mesozoic strata in Britain) in the Australian sea is of special interest.

Jurien de la Gravière, Jean Pierre Edmond (1812-92), a French admiral, born at Brest. He entered the navy in 1828, and was in command of the French Mediterranean fleet during the Franco-German War of 1870, becoming 'director of charts' in 1871; but he is chiefly famous as a writer on naval history, and among his works are: *Guerres maritimes sons la ... à l'Empire*, 1864; *La ... refois*, 1865; *La Marine ... i*, 1872; and *Les Origines de la marine et la Tactique naturelle*, 1891.

Jurieu, Pierre (1637-1713), a French Protestant theologian, born at Mer in Loir-et-Cher. He studied in England under his uncle Pierre de Moulin, and in 1674 was made professor of Hebrew at Sedan; but when that university was taken from the Protestants he settled at Rotterdam. He defended the doctrines of Protestantism with great ability, and in his *Accomplissement des Prophéties*, 1686, foretold the overthrow of the Papal Church in 1689. Besides this he wrote: *La Politique du Clergé*; *Histoire du Calvinisme et du Papisme mis en Parallèle*; *Histoire des Dogmes et des Cultes*; and *Lettres Pastorales Adressées aux Fidèles de France*.

Jurisdiction means the authority by which the law courts are entitled to decide matters litigated, or questions tried before it. The High Court has plenary J. all over England and Wales; but the J. of inferior courts (*q.v.*) is limited by being confined to certain limits of space and to certain kinds of causes or matters in dispute. Where the civil courts of inferior J. purport to act in a matter in excess of their J. the aggrieved party may get the cause removed to the High Court by writ of *prohiberi*; and where a party is convicted in a criminal court that has no J. in the matter the proceedings may be moved into the King's Bench Division by writ of *certiorari* (*q.v.*). British subjects who commit murders or manslaughters on land in foreign countries are triable in the British courts. As to ecclesiastical J. see under ECCLESIASTICAL COURTS. In Roman theological writings ecclesiastical J. denotes the power which is concerned with the worship of God and the salvation of souls, conferred by pontifical commission. States belonging to the family of nations (*see under* INTERNATIONAL LAW) claim exclusive J. on the sea to a distance of one marine league from the shore. By the Territorial Waters Jurisdiction Act, 1878, 'territorial waters of His Majesty's dominions' means any part of the open sea within one marine league of the coast measured from low-water mark. The J. of the Admiralty Division in the case of British ships and all those on board, extends not only over the high seas, but also in foreign rivers 'as far as great ships go'; but not to any cinque port, haven, or pier, nor to any creek, river, or port within the body of a country.

Jurisprudence, literally signifies a
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concerned with the exposition of the principles common to all legal systems, or, as Austin has it, the maturer systems of positive law. Ulpian defined it as the 'knowledge of things divine and human, the science of the just and the unjust,' a definition adopted in the opening words of the *Institutes* of Justinian. The Roman conception of J. was eminently consistent with a legal system which, however practical in application and concise in principle, was in its literature curiously intermingled with philosophical aphorisms and theories borrowed from the Greeks and, especially, [illegible] this wide differ [illegible] man and Engl [illegible] ke that of Aust [illegible] in definitions of modern continental juristic writers, who, with their love of *Naturrecht*, either never really mark a clear distinction between law as it is and law as it ought to be, or else subordinate positive law t[illegible] Bentham called deontology. [illegible] ing to the English school it function of general J. to explain such common notions as property, possession, things which can be the objects of property, contracts, testaments, intestacy, and actionable wrongs, and to reduce all those comprehensive notions to some general form with which other pa[illegible] may be compa[illegible] The English current idea of the scope of J. as evidenced by continental schools marks a peculiar development of English thought, and indeed the philosophy of the formal abstract conception of *de facto* legal relations expounded by Austin, inspired by Hobbes, and elaborated by Bentham, is virtually indigenous to England. There is no ethic in English J., notwithstanding Austin's remarkable excursus into the Utilitarian philosophy, whereas in the Ciceronian conception J. was that of an art having for its lofty aim nothing less than the pursuit of truth; and indeed there floated always before the eyes of the later Roman jurists a vision of a *jus naturale*, a set of rules of inherently universal application upon which they built up their *jus gentium* (*q.v.*), and it is this very broad ethical conception that links the Roman juristical writings with the treatises of continental writers. The Germans so far have not regarded the English method as worthy of much attention, an indifference which Sir Frederick Pollock attributes to the fact that whereas in England the positive law of the land has for centuries been 'single, strong, and conspicuous in all public life,' and therefore presented itself as an adequate object for distinct scientific study, in Germany, by reason of the large number of small independent states, each with its autonomy looking albeit beyond its own positive system to a common stock of Romanised German tradition, that ultimate source of principles became immeasurably the more attractive subject for scientific study.

By a kind of common consent, due perhaps to the very wide ramifications of Hobbes, Bentham, Bodin Beccaria, and others, J. has been limited to the inquiry into the ultimate principles of either positive law or *Naturrecht*, or a compound of both, without encroaching on the domain of political science. Theories of sovereignty and legislation, therefore, are conventionally irrelevant, though all jurists analyse the conception of the state as a condition precedent to expounding legal principles, while some touch on the [illegible] gislation and political purely with a view to [illegible] xact place of positive law among allied sciences. *See* Austin's *Jurisprudence*; T. E. Holland's *Elements of Jurisprudence*; Salmond's *Jurisprudence*.

Jury. Trial by J. signifies the determination of facts in the administration of civil or criminal [illegible] by twelve men sworn (Latin [illegible] to decide facts truly accord- the evidence produced before them. The institution is one of the most cherished guarantees of British liberties, and historians in their enthusiasm have often seen its origin in the general statement of the liberty of the subject expressed in Clause 39 of Magna Charta, which declares that no freeman shall be imprisoned or outlawed except by the lawful judgment of his equals (*suorum parium judicium*). But this clause referred to the trial *per pares* or *per sectatores* in the old county or shire courts, an institution which has long been generally admitted to have been of a totally different character. Simple, indeed, as the definition of a modern petty J. may appear, the evolution of that body has been notoriously a subject of keen controversy, though, according to the best opinion, its genesis may with some confidence be sought in the Norman custom of inquest by sworn recognitors, the principle of which was adopted as an alternative mode of trial in criminal cases when

the Lateran Council of 1215 abolished the ordeal in England as a means of ascertaining the truth of a criminal accusation. The vital fact of importance in the evolution of the petty J. (as opposed to the Grand J.) is that from be or persons acts of the case and able to come to a decision independently of other evidence, they ultimately became *mere* judges of fact. But exactly how and when the transition to the status of arbitrators occurred are difficult questions to answer, and the stereotyped theories on the matter seem unsatisfactory when it is realised how utterly opposed arbitral functions are to those of giving evidence. One highly ingenious theory traces the transition to a practice based on convenience, by which the recognitors or witnesses were physically separated in the court from those who came from the neighbourhood of the crime but knew nothing of the facts, though why the former should have laid their evidence before the latter is not explained. In the form in which it existed for several centuries after the Conquest, the traces of the trial by J. are more distinctly discernible in the ancient Norman customs than in such fragments of Anglo-Saxon laws as have come down to us. The canonical institution of trial by twelve compurgators who merely gave general evidence as to a man's character, resembled the trial by J. in no other respect than the number of persons sworn, and that that institution was no progenitor of the J. is conclusively established by the fact that it continued, under the name of 'Wager of Law,' side by side with the J. down to 1833. A number of notable writers, including Forsyth (*History of Trial by Jury*), see in the trial by J. a purely indigenous growth. Yet others ascribe its origin to the twelve senior thegns of Ethelred's time, who were sworn to accuse none falsely; but that institution is far more probably the ancestor of the modern Grand J. The now generally accepted theory is that of Palgrave as corrected by Dr. Brunner (*Entstehung der Schwurgerichte*), which, as noticed above, traces the descent of the petty J. from the system of recognition by sworn inquest, which was probably a direct legacy through the Normans from the Frank capitularies. The incidents of the analogous mode of trial prevalent in Normandy long before the Conquest, correspond in a striking manner with those of the later trial by J., and though unlike the institution as described by Glanville and Bracton, the mode of citing the recognitors to appear is verbally a re-echo of the present form of J. process, by which the sheriff is commanded to return 'good and lawful men of the neighbourhood, by whom the truth of the matter may be better known,' etc. But whatever view the antiquarian may take of the actual genesis, the development through the existing machinery of the shire-moot by Henry II. of the Anglo-Norman system of inquest or inquiry on behalf of the crown into facts by sworn recognitors, was not only the undoubted forerunner of our J., but an exclusively English development. Under Henry II., trial by recognitors was mainly used at first as an alternative to trial by battle in disputes concerning the title to land. The actual practice was to select twelve knights from the neighbourhood who were obliged to declare on oath which of the parties had the better right, and if not unanimous, the original body was 'afforced,' *i.e.* others were added until twelve were of one mind. As soon as the twelve become stereotyped into arbiters ignorant of the facts as distinct from witnesses, we have the true civil J., and probably the same steps are discernible in the evolution of the criminal petty J., whose primary function was to test the truth of a criminal presentment by an accusatory J. (*jurata delatoria*) or, as we call it, a Grand J. The early history of the English criminal J. is uncertain, but it is clear from Bracton and Fleta that at the end of the 13th century it had become the normal mode of trial, having gained ground with advancing civilisation, and superseded the more ancient and barbarous customs of battle, ordeal, and wager of law. The Js. now in use in England in the ordinary courts of justice are grand, special, petty, or common Js. Grand Js. are exclusively incident to criminal courts, and they are summoned by the sheriff to examine into charges of crimes brought before them at assizes or borough sessions. There is no qualification by estate for grand jurors, but those of the borough sessions must be burgesses (*q.v.*). The grand jurors of the assizes are generally men of good social standing in the county. The number summoned on a grand J. must not be less than twelve nor more than twenty-three, so that there may be a majority of twelve. After being 'charged' or addressed by the judge, chairman, or recorder as the case may be, the Grand J. retires to its own room with the bills of indictment (*q.v.*), and their function there is to examine the witnesses for the prosecution on oath to see whether there is a *primâ facie*

case against the accused. If they are of that opinion they return a 'true bill,' and the case goes for trial before the petty J., if not, they throw the bill out and the accused is discharged, though he may, if additional evidence be forthcoming, be charged before another grand J. This process is repeated with each of the bills preferred to them until all are disposed of. The qualification of petty or common jurors is set out in the Jury Act, 1826, and the Juries Act, 1870. All jurors are liable to serve on petty or common juries, but special jurors must have certain special qualifications. Every man between the ages of twenty [illegible] sixty is qualified to serve on or common J. at the High the assizes, and on both the grand and petty Js. at the county sessions, provided: (1) He is in receipt of a clear yearly income of £10 out of freehold lands in the county of his residence, or £20 a year from leasehold lands held by lease for twenty-one years or longer, or for a term of years determined on any life or lives. (2) Being a householder, is rated (poor rate) or assessed to inhabited house duty in Middlesex to the value of not less than £30, or, in the case of any other county, not less than £20. A special juror must be either: (1) An esquire or person of higher degree, (2) a banker or merchant, (3) in occupation of a private dwelling-house assessed to the poor rate or to the inhabited house duty on a value of not less than £100 in a town containing a population of 20,000 inhabitants and upwards, or not less than £50 in any other town, or (4) in occupation of premises other than a farm rated or assessed on a value of not less than £100, or, in the case of a farm, not less than £300. Special Js. are for the most part summoned for civil cases, but they may be summoned for certain criminal cases, viz. in misdemeanours by permission of the Court of King's Bench (as to the criminal jurisdiction of this court *see under* KING'S BENCH) on motion of either the prosecutor or the defendant. Jurors for the City of London must be either householders or occupiers of premises, and in addition, possess property of some description to the value of £100. Persons above sixty are exempt from J. service. Women may only serve on a J. of matrons to determine the one question whether a female convicted of murder is enceinte. The following are also exempt: Peers, judges, Roman Catholic priests, members of parliament, dissenting ministers following no other secular occupation than that of schoolmaster, barristers, solicitors, registered medical practitioners, and pharmaceutical chemists actually in practice, solicitors' managing clerks, officers of the law courts, and officials connected with prisons and public lunatic asylums, officers in the navy, army, militia, and yeomanry on full pay, members and licentiates of the Royal College of Physicians of London or the Royal College of Surgeons (London, Edinburgh, and Dublin), masters, warders, and brethren of Trinity House, masters of vessels in the buoy and light service, licensed pilots, post office employees, customs and inland revenue officials, [illegible] and country police [illegible]cillors of municipal cor- [illegible]town clerks, borough treasurers (as to their own counties), justices of the peace, metropolitan police magistrates and their officials, sheriffs' officers, and household servants of the sovereign. Lists of all persons qualified are made out by the overseers and churchwardens or some other local authority during the first three weeks of every September, and affixed to the church doors of the parish during that time. The lists are then revised by the justices at special petty sessions in the last week of September, and objections to inclusion to be of any avail should be lodged with the overseers or other local authority before the justices revise the list. A juror is entitled to six days' notice of the time at which he is required to attend, and if he is prevented by illness from attendance he must send a medical certificate to that effect to the associate of the court to which he is summoned. A special juror is customarily allowed a fee of 1 guinea in respect of each action which he is sworn to try. Counsel who succeeds in the action invariably asks the judge to 'certify' for the special J., where there is one and his client has summoned it, and the judge includes the fees in the costs if he thinks the case a proper one to be tried before a special J.; if he thinks otherwise the party summoning such special J. bears the expense. Common jurors in civil actions are allowed no more than 1s. a case; in criminal actions nothing is paid. County court Js., formerly composed of five, now consist of eight members. They are not often resorted to, and it is well known that county court judges as a body are strongly opposed to having time wasted and their faculties implicitly condemned by summoning such Js. to assist them. Jurors may be objected to or 'challenged,' as it is termed, and either party may exercise this right which is of two kinds:

(1) Challenge *to the array*, or an objection to the whole number of jurors on the panel on account of some reason alleged against the sheriff who summoned them; (2) challenge *to the poll*, *i.e.* to some particular juryman or jurymen on one or more of the following grounds: (*a*) That the juror is a peer, or is (*b*) not properly qualified, or (*c*) is likely to be biassed, or (*d*) has been convicted of some crime or misdemeanour. For the history of Js. *see* Taswell-Langmead, *English Constitutional History*; Forsyth, *History of Trial by Jury*; Brunner, *Entstehung der Schwurgerichte*; Stubbs, *Constitutional History*; Philipps, *On Juries*; and Palgrave, *English Commonwealth*.

Jurymast, a temporary mast which is erected on a ship in the place of one lost or destroyed.

Jus Devolutum, in old Scots law, the right of the bishop of a diocese to appoint an incumbent (*q.v.*) to a vacant living if the owner of the right of presentation does not exercise his right within a prescribed time.

Jus Gentium, *i.e.* law of nations, was the body of laws administered in ancient Rome by the prætors and which, evolved as it was by a process of selection of such rules as by their inherent force and reasonableness commended themselves as principles of natural justice, was applied to outlying nations under Roman dominion. The English law merchant owes many of its essential principles to those of the J. G.

Jus Mariti, in Scots law, the unlimited right of a husband, prior to the Married Women's Property Act, 1881, to manage and dispose of the movable estate of his wife, whether belonging to her at the date of marriage or only acquired subsequently. The J. M. was only lost by express renunciation, or by exclusion by an antenuptial marriage contract. The Act of 1881 abolished the J. M., except as to cases where the marriage was contracted and the wife acquired property before July 18, 1881.

Jus Primæ Noctis, literally denotes the right of concubinage on the first wedding night. According to some historians, the mediæval feudal law gave the lord the J. P. N. with his tenants' wives on their first wedding nights. Blackstone repudiates the assumption that so barbarous a custom ever existed in England or Scotland, though it has occasionally been adduced as a plausible explanation of the custom of Borough-English (*q.v.*), and of the origin of the fine paid by the tenant to the lord on [illegible] former existence in Scotland.

ing to Skene in the ordinance of King Evenus to the effect that the lord of the ground should have the right by way of casualty (*q.v.*). Malcolm III. repealed the ordinance and decreed that the bridegroom should pay a sum of money (called *marca*) as compensation. Hence the Scottish term *merchet*, or *merchela mulierum*, to denote the old form of the marriage tax in the charters of Robert I. Some Scottish historians (notably Hailes and Professor Cosmo-Innes) deny that the custom existed in Scotland, and explains the term *marcheta* to mean a fine paid by a villein either when his unmarried daughter happened to be defiled, or by way of compensation to the lord for giving her in marriage to a man not subject to the jurisdiction of the lord. According to certain French writers, the J. P. N. was synonymous with the *droit de seigneur*, but others consider that the latter term merely connoted the insistence of the church on continence in brides. The term, according to Schmidt, Veuillot, and others, had a quasi-religious significance, as exemplified in parts of China, where priests were said to deflower virgins at the express request of the girls' parents, and in Western India where J. P. N. was extended to men of assumed divine caste. *See* K. J. L. Schmidt's *Jus Primæ Noctis*, 1881; Blackstone's *Commentaries* (vol. 2); Bell's *Dictionary of Scots Law*; Veuillot, *Droit du Seigneur*.

Jus Relictæ, in Scots law, the right of a wife after the death of her husband to one-third of his movable estate if he dies leaving children, and to one-half if he leaves none. The husband, by the Married Women's Property (Scotland) Act, 1881, has a corresponding right, called the *jus relicti*, in the wife's property. The widow is not disentitled by reason of having been previously provided for by her husband. Unless, in accepting such provision, she expressly renounced her right, and such renunciation is only effectual to bar her J. R. if it be shown that she was fully aware of the extent of her legal right. The husband cannot affect the J. R. by any testamentary or other deed.

Jusserand, Jean Adrien Antoine Jules (*b.* 1855), a French politician and writer, born at Lyons. In 1870 he began his career as a diplomat, during which he fulfilled several important missions. In 1902 he was appointed ambassador in the United States. Among his writings may be mentioned: *Le Théâtre en Angleterre depuis la conquête jusqu'aux prédécesseurs immédiats de Shakespeare*, 1878; *Les Anglais au moyen age*, 1884; *Le*

Roman anglais, 1886; *Le Roman au temps de Shakespeare*, 1888; *Histoire littéraire du peuple anglais des origines à la Renaissance*, 1894.

Jussieu, De, the name of a French family of botanists. Among its chief members may be mentioned:

Antoine (1686-1758), born at Lyons, and was made professor of botany in Paris, as the successor of Tournefort. He published several books, among them Tournefort's *Institutiones rei herbariæ*, 1719, edited by him.

Bernard (1699-1777), also born at Lyons, was the superintendent of the gardens at the Petit-Trianon, and to him is due the beginning of the arrangement of the plants according to a natural system, a method completed by his nephew. He edited Tournefort's *Histoire des Plantes qui naissent dans les Environs de Paris*, 1725.

Antoine Laurent (1748-1836), a nephew of Bernard, was in 1770 made professor of botany at the Jardin des Plantes, Paris. His *Genera Plantarum*, 1789, is the foundation for the modern method of botanical classification. He also published articles in *Annales du Muséum*, 1804-20, and in *Dictionnaire des Sciences Naturelles*.

Adrien (1797-1853) is remembered for his publications on Rutaceæ, Meliaceæ, and Malpighiaceæ, as well as that on Euphorbiaceæ.

Laurent Pierre (1792-1866), the nephew of Antoine Laurent, and a French writer on education. His chief work is *Simon de Nantua*, 1818, translated into several languages.

Juste Milieu (French), signifies the exact mean. In reality it is a medium course between extremes, and was used as a political term after 1830—in the time of Louis Philippe—to describe the existing system of government.

Juste, Théodore (1818-88), a Belgian historian, and a native of Brussels. In 1859 he became curator of the museum of antiquities in that city, and eleven years later professor of history. Among his many works may be mentioned: *Histoir* [illegible] 1840; *Histoire de la* [illegible] *Pays-Bas sous Philippe* [illegible], *Le soulèvement de la Hollande en* 1813 *et la fondation du royaume des Pays-Bas*, 1870; *Guillaume le Taciturne*, 1873; and *Les fondateurs de la monarchie Belge*, 1865-81.

Justices, Lords, the L. J., who are five in number, form, together with the Lord High Chancellor, the Lord Chief Justice of England, the Master of the Rolls, and the President of the Probate, Divorce, and Admiralty Division as *ex officio* members, the penultimate Court of Appeal for England and Wales. In practice, the Master of the Rolls alone of the *ex officio* judges sits as a regular member of the Court of Appeal. Ordinarily there are two courts of appeal of co-ordinate jurisdiction, one consisting of three L. J., and the other of two L. J. and the Master of the Rolls. An ex-lord chancellor is also entitled to sit in the Court of Appeal, and provision is also made for calling in a judge of the High Court to reinforce the Court of Appeal when necessary. At the beginning of 1913 a third court was constituted temporarily, for the purpose of disposing of arrears of pending appeals. This Court of Appeal was established by the Judicature Act, 1873, as a superior court of record, and it was intended that there should be no appeal from its decisions either to the House of Lords or the Privy Council; but that provision of the Act of 1873 was finally repealed, after being suspended, by the Appellate Jurisdiction Act, 1876. To the Court of Appeal was transferred all the jurisdiction and powers of: (1) The Lord Chancellor (as titular head of the Chancery Court), and of the old Court of Appeal in Chancery, in his and its appellate jurisdiction, and of the same court as a court of appeal in bankruptcy. (2) The Court of Appeal in Chancery of the County Palatine of Lancaster, and of the appellate powers of the Chancellor of that duchy. (3) The Court of the Lord Warden of the Stannaries and his assessors. (4) The Court of Exchequer Chamber (*q.v.*). (5) The judicial committee of the Privy Council, or the King in Council, as to any appellate jurisdiction from a judgment of the Admiralty Court, or from any order in lunacy. Subject to certain exceptions, an appeal lies from the High Court to the Court of Appeal from every judgment or order of the High Court, but no appeal lies to it in criminal matters, and in the case of any inferior court (*q.v.*) only by leave. The procedure on appeal is by motion either for a new trial or to set aside a verdict, finding, or judgment. The [illegible] motion must state the [illegible] of the application, and [illegible] or part only of the finding is complained of, and the court may order the appellant to give security for the costs of the appeal. A new trial may be granted on any one or more of the following grounds: (1) Misdirection by the judge; (2) misreception of evidence or erroneous rejection of evidence by the judge; (3) misbehaviour of the jury; (4) excessive or inadequate damages; (5) discovery of fresh evidence; (6) total absence of evidence for the jury; (7) verdict against the weight of evidence; (8) surprise—a term used to denote all cases where the appellant, through no

fault of his own, was prevented from getting a fair trial, *e.g.* by his opponent keeping a material witness away, or misleading him as to the time of the trial. It is a rule of the Supreme Court that there is no appeal from an order of a High Court judge as to costs, such matter being entirely within the discretion of the judge making the order. In most cases a party has a right of appeal without leave, although the judge whose order or judgment is being appealed against may, on notice of appeal being given, refuse a stay of execution or impose certain terms as to paying money into court, as a condition of appeal. An appeal lies without leave where the liberty of the subject or the custody of infants is concerned; in cases where an injunction (*q.v.*) has been refused or granted from decisions determining the claims of creditors; and in a few other cases. From the Court of Appeal there is a right of appeal to the House of Lords, but it is an extremely expensive process.

Justices of the Peace. These are inferior and unpaid magistrates appointed by the Lord Chancellor on the recommendation of the Lord Lieutenant of a county, to keep the peace within the county, borough, riding, liberty, or other division in which they are appointed. The title of J. of the P. dates from 1360, when Edward III. vested a criminal jurisdiction in the old Conservators of the Peace. The germ of these latter is traced by Bishop Stubbs (*Select Charters*) in the appointment by Archbishop Hubert as chief justice in 1195 of knig[illegible] mainter[illegible] *Edictum* other years, knights were *assigned* to keep the peace, and in Edward I.'s reign *custodes pacels* were sometimes elected by the county freeholders. One of their principal functions was the enforcement of the Statute of Winchester, 1285. Edward III. gave them the general power of trying practically all felonies, and in course of time they gradually usurped all the powers previously exercised by the Shire Moot. An Act of Henry VII. empowered J. of the P. to try all offences except charges of treason, murder, and felony, and from that date their power as a body of criminal judges declines. But for long they exercised multitudinous duties of local government, and among the earliest of such duties were those of collecting benevolences, maintaining bridges, highways (*q.v.*), and public buildings, granting licence [illegible] ing local officials, and [illegible] local finance. The bulk o[illegible] ministrative duties have now become transferred to the county councils (*q.v.*) by the Local Government Act, 1888. But by means of a joint committee, the J. of the P. and the county councils jointly superintend the county police. The Act of 1888 did not interfere with the judicial work of J. of the P., and the decline in their criminal jurisdiction was rather a consequence of the practice of remitting the more serious felonies to the assizes; a practice now hardened in a statutory provision to the effect that the criminal jurisdiction of the Quarter Sessions (*see* COUNTY SESSIONS) is now confined to the trial of certain minor felonies and misdemeanours. There are several classes of J. of the P.: (1) Those named in the schedule to the Commission of the Peace, for a particular county, division, borough, or liberty. In these cases it is believed that the Lord Chancellor has power to appoint independently of the Lord Lieutenant's recommendation (see *Report of Royal Commission on Selection of Justices*, 1910). The post of county justices, formerly remunerated by a scale of wages regulated by a statute of 1389, is now purely honorary, and since 1907 the old property qualification of £100 a year, or the necessity for any property qualification, has been abolished. (2) The Lord Chancellor, the Lord President of the Privy Council, the Lord Privy Seal, the judges of the High Court, the Attorney-General and Solicitor-General are J. of the P. *virtute officii*. (3) County court judges, borough recorders, metropolitan police court magistrates, and others [illegible] by reason of holding certain judicial offices, acquire the of J. of the P. (4) Mayors of [illegible] ex-n[illegible] one [illegible] chairmen of county and district councils (a woman is ineligible). (5) The mayor and aldermen of the City of London. Borough justices are now appointed under the Municipal Corporations Act, 1882, but a borough can petition the crown for the appointmer[illegible] to be ap[illegible] tary. If [illegible] who must be a barrister of at least seven years standing, has all the powers of two or more justices sitting as a petty sessional court. Petty sessions are sittings held by two or more J. of the P. for the disposal of minor charges, admitting to bail persons accused of felony, the hearing of informations and complaints, and certain other purposes. The Lord Mayor, [illegible] he aldermen of the City of [illegible] r any police or stipendiary [illegible] sitting in a court-house, where he has the usual power of two

justices, constitutes a petty sessional court-house. A single magistrate sitting alone has very circumscribed powers. He can hear a charge prior to committing for trial, release a prisoner on bail (*q.v.*), take his recognisances to appear, and dismiss a case when the evidence is not strong enough to justify committal.

There have been considerable accessions in recent years to the judicial powers of J. of the P. They are empowered to grant judicial separations between husband and wife, and make maintenance orders against a husband in favour of his wife up to £2 per week; they can make bastardy orders, licence places for the sale of intoxicating liquors, and exercise limited powers in ejectment (*q.v.*), generally speaking, restricted to cases where the rent does not exceed £20. J. of the P. have wide ministerial duties and powers, *e.g.*, under the Elementary Education Acts, in default of the county councils; the imposing of highway (*q.v.*) rates; granting exemptions under the Truck Acts; and licensing drivers of motor cars. See on this the *Report of Royal Commission on Selection of Justices*, 1910. See also *The Justice of the Peace and his Functions* (Dent).

Justicia, a large genus of acanthaceous plants found in all tropical parts of the world, but preferring damp woods. Only a few species are cultivated as ornamental plants.

Justiciary, High Court of, the supreme court for criminal causes in Scotland. There is no court of Criminal Appeal for Scotland other than this court itself, and no appeal from the decisions of the H. C. of J. to the House of Lords. Its decisions are therefore final. The court sits permanently at Edinburgh, and various of its judges go on circuit six times a year to Glasgow, four times to Aberdeen, Dundee, and Perth, and twice a year to Ayr, Dumfries, Inverary, Inverness, Jedburgh, and Stirling; but special sessions may be held at any convenient town. Its membership comprises the Lord Justice-General, the Lord Justice-Clerk, and eleven Lords Commissioners of Justiciary, *i.e.* the whole of the Lords of Council and Session and Senators of the College of Justice. A single judge usually sits, except in cases of special importance or when the court is sitting as a Court of Appeal, in which latter case three judges form a quorum. Its jurisdiction extends to any crime against public law committed by a British subject or a foreigner, in Scotland, or partly in Scotland and partly abroad, or committed at sea if at the time the ship was within three miles of the coast of Scotland. Formerly certain crimes were triable only in the H. C. of J., such as robbery, rape, murder, and wilful fire-raising. But since 1887 the Sheriff-Court has had jurisdiction in all crimes except treason, murder, and rape.

Justifiable Homicide. Homicide by the English criminal law is justified in the execution of a criminal, in the prevention of a 'forcible and atrocious crime' (*e.g.* rape), and in the case of an officer of justice killing a person who prevents him from carrying out his duty. It is distinguished from excusable homicide, though the effect of the latter is the same. Homicide is excusable in self-defence, or when it occurs by accident.

Justinian, the historian, flourished, it seems, in the reign of Antoninus Pius, but his personal history is a blank. His forty-four *Historiarum Philippicarum libri*, however, have lasted, though the compendious work of Trogus Pompeius, who lived in the days of Augustus, has unfortunately perished. Justin's *History* was merely a popular epitome of Trogus'. It must be confessed that Justin's redacton is somewhat free and careless, yet it gives many details and anecdotes about the Assyrians, Medians, Persians, Greeks, Macedonians, Carthaginians, and Parthians, etc., which are not recorded elsewhere, and is written, moreover, in a readable style. Gronovius published a good edition in 1719, and since then many others have been issued.

Justinianus, Flavius Anicius (483-565 A.D.), ruled over the Eastern Roman empire as Justinian I. He was born in Illyricum of obscure barbarian parentage. Justinus, the emperor, however, was his uncle, and as in the helplessness of his age and ignorance he had learned to trust the energies and capacities of his nephew, who had profited by a liberal education in Constantinople, he wisely appointed him his successor. Thus Justinian came to the throne in 527. The outstanding features of his reign are his conquests and his laws, but a word must first be said of his personality and ecclesiastical policy. He is described as vain and somewhat fickle of purpose, but, on the other hand, he was a model of industry, and a man of wide interests and large public spirit. Thus he built and repaired many cities, bridges, walls, and public buildings, encouraged commerce, and introduced into Europe the cultivation of silk-worms. Further he was virtuous in private life, indifferent to ease and luxury, always courteous to friends, and easy of access to strangers.

The Church received his constant

and earnest attention. By edict he denounced the heresies of Theodore,

. . . .

controversy, and as Justinian himself was at least suspected of Monophysitism and a more recent heresy, it is not surprising that his desire for peace was unfulfilled; indeed his rigorous persecution of pagans and heretics, and especially of the Phrygian Montanists and the Samaritans of Palestine, rather encouraged fanaticism and religious strife.

The warlike Belisarius and the skilful Armenian eunuch, Nares, won his battles. Thus Africa was wrested from the Vandals (535) and Italy from the Goths (552); along the Danube there were successful skirmishes with the Bulgarians, Gepidæ, and Longobards, whilst in 562 a truce was made after a twenty years' struggle with *Chosroes I. of Persia, whose encroachments* on the eastern frontier were thus momentarily stayed. Yet Justinian has with some justice been accused of squandering the enfeebled resources of the empire in recovering exhausted territory instead of strengthening the barriers against the Slavs and Huns in the N. and the Iranians to the E.

The extraordinary Tribonian was the animating spirit of his legal reforms. A body of ten scholars under Tribonian brought out the *Code* in 529, and a second edition followed in 534. Seventeen lawyers, again with Tribonian at their head, issued the *Pandects*, or *Digests*, in 533, having 'extracted the spirit of jurisprudence from the decisions and conjectures, the questions and disputes, of the Roman civilians' in the astonishingly short period of three years—a feat all the more miraculous when it is realised that their work was an abridgement of as many as 2000 treatises. The *Institutes*, which was intended as a student's manual in the academies of Rome, Constantinople, and Berytus, preceded the *Digests*. Finally, sixteen edicts and a number of 'novels' (*Novellæ*) completed his compilation, a compilation destined for centuries to be the basis of European codes. Though Justinian founded his work on the 'sages and legislators' of past ages, he paid little heed to any lawgivers before the days of Hadrian, and thus abetted Time who was fast consigning the jurisprudence of the Roman republic to what to-day is regarded as a regrettable oblivion. Without belittling the services rendered by Justinian's constructive simplification of Roman law, it must be acknowledged that Gibbon's description of his code as a 'tessellated pavement of antique and costly, but too often incoherent fragments,' is a true one.

Justinianus II. (685-695 and 704-711 A.D.), a Byzantine emperor, succeeded his father, Constantine IV. He made war on the Arabs and Bulgarians, and so roused the hatred of his subjects by his rapacities and persecutions that they rose in rebellion under Leontius. The rebellion succeeded, and Leontius cut off the emperor's nose and drove him out of the capital. J. had his revenge in 704, when he surprised Constantinople and put Leontius to death. He also slew Tiberius, his successor, and having recovered his imperial power, harked back to his former tyrannies.

Justinus, called **Justin Martyr** (*c.* 100-*c.* 165 A.D.), an early apologist of the Christian Church. He was born at Flavia Neapolis, now Nablus, in Samaria, of heathen parents, and was brought up in the philosophy of the Stoics and Platonists. In his *Dialogue with Trypho the Jew* he ascribes his conversion to Christianity to a chance conversation with an aged stranger, a Jew, at Ephesus, who directed him to study the O.T. prophets. After his conversion he continued to wear his philosopher's cloak, disputing and lecturing at Ephesus, Rome, and other cities. The date of his martyrdom cannot be exactly determined; according to the *Acta SS. Justini et Sociorum*, it took place under the prefect Rusticus (163-167 A.D.), but some authorities quote the earlier date of 148. The two undoubtedly genuine works of J. are *Apologies for the Christians*, in two books, and the already mentioned *Dialogue*. The former is addressed to a cultured pagan audience, and to the modern student is of great value as a history of the early Christian Church. To a certain extent J. reconciles Christianity with ancient Greek culture. The latter is a defence of primitive Christian theology as opposed to Judaism, and is an account of a two days' theological discussion at Ephesus. Other works ascribed to him are a Speech and an Address to the Greeks and an *Epistle to Zenas and Serenus*, but their authenticity is very doubtful. The best edition is that of Otto, *Justini philosophi et Martyris opera quæ feruntur omnia* (5 vols., 3rd edition), 1876-81. For English translations, *see* the Oxford Library of Fathers (1861) and Clarke's Ante-Nicene Library (1868). Consult Donaldson, *History of Christian Literature and Doctrine* (1866) and monographs by Kaye (1889) and Feder (1906).

Justinus I. (518-527 A.D.), a Byzantine emperor, was a peasant boy of Dacia, who enlisted in the guards of the Emperor Leo I. Endowed with the soldierly virtues, he rapidly rose to general, and on the death of the Emperor Anastasius, being then captain of the guards, he was chosen emperor. His illiteracy was such that he did not even know his alphabet, but Proclus, the quæstor, proved a trusty servant of state. At the instance of his nephew, Justinian, he healed the breach between the Greek and Roman Churches. The responsibility for the regrettable murder of Vitalianus, the consul, rests rather with the nephew than Justinus.

Justinus II. (565-574 A.D.), a Byzantine emperor, succeeded his uncle, Justinus I. At the request of the Romans he deposed Narses, the Goth, and made Longinus exarch of Ravenna in his stead. It was the invitation, it appears, of the turbulent and humiliated Narses which brought the Longobards under Alboin like a torrent over the Alps and thus lost the whole of Northern Italy to the empire of Constantine. There were risings, too, in Africa, and the Persians overran Asia. Meanwhile J. sat impotent at home, a victim of a painful and disabling disease. He abdicated four years before his death.

obtained from two species of Corchorus, namely, *C. capsularis* and *C. olitorius*, the products of which are both so similar that economically no difference is recognised. Corchorus belongs to the lime-tree family (Tiliaceæ). The two varieties mentioned are annual plants, with round stems as big as a man's finger, and with hardly any branches except at the top. They reach to a height of from 5 ft. to 10 ft., and are readily distinguished by their seed pods; the capsule of *C. olitorius* is a slender cylinder some 2 in. long, whilst that of *C. capsularis* is almost globular and rough to touch.

Cultivation.—J. grows best in a hot, moist atmosphere where there is considerable rainfall. It flourishes in Bengal, especially in the Highland districts, and attempts to [illegible] it into Egypt and other parts of Africa, etc., have so far [illegible] the yield only of an inferior variety. The seed is sown broadcast at any time from the middle of March to the middle of June. Sometimes, however, it is first planted in nurseries and transferred outside in the seedling stage. The appearance of the flower is the signal for harvesting, which usually takes place about three months after the sowing. The stalks, which are either cut down with the sickle or pulled up by hand, are gathered into bundles and immersed in stagnant pools or streams to undergo the process known as 'retting.' This may last from three to thirty days, the object being to loosen the fibres and separate them from the stem. One means adopted to facilitate this end is for the operator to stand in the pool and, by beating and shaking, to strip away the resinous matter of the bark. After he has agitated the fibre in the water so as to cleanse it from vegetable impurities, he wrings it out and suspends it on a line to dry in the sun The fibre is now made up into bundles, and after being carefully sorted according to quality, is passed through a powerful hydraulic press, which reduces it to the familiar bales of commerce. Each bale weighs 400 lbs., and an average crop yields 2·6 bales per acre. A 100 per cent. crop, however, is one which yields 3 bales (1200 lbs.) per acre. The total number of bales produced in 1907 was estimated at almost 10,000,000. Of these nearly a half are supplied to Indian mills and used for home consumption, whilst five-sixths of the remainder is exported to Europe and one-sixth to America. About one-third of what goes to Europe is shipped to the British Isles, Dundee being the centre of the J. industry. In 1910 the value of the raw and manufactured J. exported was given as £21,656,297, slightly less than half of this being the raw article; the bales of J. imported into the British Isles were valued at £4,658,450. In 1906 there were 3,181,600 acres under cultivation; the production in hundredweights was 29,945,000, and the amount exported 14,581,307; if the latter figure is subtracted from the total production, the number of hundredweights consumed at home is obtained. These statistics, of course, express the same facts as the 'bale' figures quoted above. The industry in Dundee has multiplied over 1000 times since its beginning at the Chapelshade works in 1832. Nearly 1[illegible] passed th[illegible] 1906 as [illegible] of that a half century before. J. [illegible] e first established in Calcutta in 1854. These were thirty-nine in number by the year 1907; during the ten years from 1896-1906 the number of looms and spindles in India was more than doubled.

Uses and characteristics of jute.—The Hindus have from ve[illegible] times made cordage, pap[illegible] cloth out of this fibre. T[illegible] cloth made to-day is 'gunn[illegible] which is woven of different [illegible] according to the purpose for [illegible] is intended. Thus gunny [illegible] used for carrying poppy seed, pulses, and rice, and package covers, sails, sheets, and even wearing apparel are also made of this material. Other articles made of J. are string, cord, and rope; floor-cloths, painters' brushes; net-bags to carry hay or to muzzle catt[illegible] of stuff for tying bales tar-paulin, sac[illegible] are some of th[illegible] out from the [illegible] hist from J. als[illegible] Wil-ton, Brusse[illegible] and all kinds o[illegible] The waste prod[illegible] these manufactures can be used up in paper mills. The best J. is inferior in durability and strength to hemp and flax, and even single strands are rarely of the same tenacity throughout. The finest *qualities, such as* Serajgunge and Naraigunge, are lustrous, soft, and smooth, long, uniform in fibre, and of a yellowish-white colour. Inferior qualities, as, for instance, Daisee and Dowrah, are of a brownish hue, and are fit only to be d[illegible] darker shades. Good fibres may dyed delicate and also bright ti[illegible] but they rarely bleach a pure wh[illegible] Balers have an elaborate system [illegible] marking the four main classes of the fibre and of subdividing these again according to tone and quality.

Manufacture.—In the early decades of last century manufacturers were confronted with many difficulties, arising *either out of* the use of unsuitable machinery or out of the failure to realise *that J. is far more* woody and brittle *than other fibres.* These difficulties, however, have now been overcome, so that J. is not only employed to make the commodities detailed above, but is also freely mixed with other animal and vegetable fibres to make horse cloth, tapestries, paddings, household cloths, etc. In a modern factory the first process is 'batching,' by which the J. is classified according to the quality adapted to the yarn desired. In one batch there are from six to twelve bales. The 'streaks' or 'heads' of J. are then passed through a 'bale opener' or 'J. crusher,' a machine for crushing and partially separating the layers *from the* different bales. In the [illegible] machine the streaks are [illegible] wetted between fluted [illegible] water and oil, as they have been hardened in the course of baling by [illegible] pressure. The J. is next [illegible] 'dollops' (measures by [illegible] the 'breaker card' and [illegible] 'd,' in which it is combed [illegible] out. The 'drawing-[illegible] and 'roving-frames,' in [illegible] sliver is drawn out to many times its own length, completes the process of preparation. A length of 14,400 yards of J. yarn is called a 'spyndle,' which *in fine qualities* weighs only 2½ lbs. But a 'spyndle' of coarse yarn may weigh as much as 10 lbs. J. spinning is very similar to flax-spinning.

Jute Bags, *see* GUNNY BAGS.

Jüterbog, a tn. in Prussia, prov. of Brandenburg, 39 m. S.S.W. of Berlin. In 1644 the Swedes here defeated the Imperialists. Near by is Dennewitz, where Bülow defeated the French (1813). Pop. 7634.

Juticalpa, a tn. in Honduras, cap. of Juticalpa dept., 100 m. E.N.E. of Tegucigalpa. The town deals in agricultural [illegible] and cattle, and near by are g[illegible]). Jutlan[illegible] northern and [illegible] peninsula, wh[illegible] to the Skaw he[illegible] a line drawn f[illegible] outh of the Elbe. Separated from Sweden by the Cattegat and from Norway by the [illegible] almost cut in two by [illegible] 10 m. long). The [illegible] strait, that is, be[illegible]d Fünen, connects [illegible] rth Seas. Irrigation, tree plantations, and cultivation of the fens, etc., are fast transforming the heath and sand of the interior into arable land. J. has an area of 9898 sq. m., and a population of 1,198,457 (1911). The chief ports are Aarhuus (61,755), Aalborg (33,449), [illegible] See DENMARK.

[illegible] is Juvenalis [illegible] an satirist, was the son of a well-to-do freedman of Aquinum. His personal history is almost a blank, but the following are likely conjectures. After receiving a liberal education he devoted sometime to the study of eloquence. Late in life he developed his genius for satire and incurred the displeasure of the Emperor Domitian by his contemptuous reference in the seventh satire to Paris, the pantomime dancer and court minion. There are also [illegible] for believing that [illegible] a Dalmatian [illegible] ned in Egypt, perhaps as an exile, and that he lived on to the reign of *Antoninus* Pius [illegible] His Satires, sixteen of [illegible] lesson from Latin, and [illegible]

banded his scathing portrait of the odious Domitian till after that emperor's death. It is a brutal, often disgustingly vivid picture that the poet draws of the vicious Roman society of his day. The third satire, which is an Hogarthian painting of the metropolis, appals the reader with the glare and variety of its colours, whilst the sixth, which may well be called the 'Legend of Bad Women,' displays to the full the grimness of the writer's humour, the remorselessness [illegible] the sincerit against the so that the [illegible]tement, 'Facit indignatio versum,' is obvious. Like Swift, J. often descends to filth and indecency, and it must be confessed he was far too prone to verbal luxuriance and gaudy rhetoric. Yet at his best he writes with a style as vigorous and trenchant as Tacitus, and his verses are replete no less with the learning of a patient scholar than the worldly knowledge and wisdom of an ancient Machiavelli. The first nine satires are at the same time the finest and most virulent. His other poems reveal greater forbearance, loftier sentiment, but also a falling-off in power.

Juvenile Offenders. The policy of the modern criminal law of England is to remove J. O. as far as possible from the contaminating influence of adult criminals and the atmosphere of the police or other ordinary criminal courts. With this object the Children Act, 1908 (*q.v.*), provides that a J. O. (*i.e.* a child or young person under sixteen) must in certain cases be released on his parent's recognisances unless he can be brought *forthwith* before a court. In other cases of involving grave charges like homicide, or in any case where the release of the J. O. might be to defeat the ends of justice, the police must, pending trial, detain him in a 'place of detention' unless his character is so unruly or his mental or bodily health such that it is inadvisable so to detain him. It is only in such cases as these latter that detention may be in a police cell. J. O. committed for trial must also be remanded to a place of detention and not to prison, unless of too depraved or unruly character. No child can be sentenced to imprisonment, and a 'young person' only when of so unruly a character that he cannot safely be sent to a place of detention or of so depraved a character that he is unfit for mere detention. The police must keep a register of all authorised places of detention. J. O. on trial before a court of summary jurisdiction must be tried in a separate juvenile court. *See also* REFORMATORIES and INDUSTRIAL SCHOOLS.

Juventius, Celsus, *see* CELSUS.

Juxon, William (1582-1663), Archbishop of Canterbury, was educated at Oxford. In 1609 he became vicar of St. Giles', Oxford, and about 1614 rector of Somerton. Among the other appointments that he held were those of president of St. John's College (1621), vice-chancellor (1626), Dean of Worcester, Bishop of London, and Lord High Treasurer. He was a staunch adherent of Charles I., after whose death he was deposed from office. On the accession of Charles II., however, he was made Archbishop of Canterbury.

Jyotisha, or 'Astronomy,' one of the six branches of Vedic science included under the term 'Vedanga.' A metrical treatise ascribed to one Lagadha, or Lagata, has come down to us under this title, and appears to be the oldest existing systematic treatise on astronomical subjects, its date probably being not later than the early centuries after Christ.

K

K, the eleventh letter of the alphabet, is a back voiceless stop or guttural tenuis. The Greek κ was originally written ⋋, an adaptation of the Phœnician *Kaph* ⋋. In Latin *c* was substituted for an older *k*, *k* being retained only in a few words, such as *kalendæ*. In Late Latin MSS. *k* was sometimes employed to represent the hard sound of *c* before palatal vowels, *e*, *i*, *y*. K does not occur in O.E., but in early M.E. manuscripts it is used as a variant of *c*. M.E. *c* had the hard sound of *k* before *e*, *i*, where these were originally guttural vowels. After the Norman Conquest, words of French origin came in use in which *c* had the soft sound of *s* before *e*, *i*. For the sake of clearness the words of native origin were written with a *k*; *cf.* O.E. *cynn*, *cyning*, N.E. *kin*, *king*, and Fr. *cité*, N.E. *city*. In O.E. *c* had the hard guttural sound initially before consonants. In M.E. *c* was written as *k* before *n* and became silent, *e.g.* O.E. *cniht*, N.E. *knight*. In N.E. there are many words of Scandinavian origin with initial *k*, *e.g. keg*, *kill*, *kirk*, and many foreign words have been introduced, *e.g. koran*, *kangaroo*.

Kaaba, The, a shrine in the great mosque of Mecca, the foundation stone of which is supposed to have been laid by Abraham. All Moslemites resort [illegible] on pilgrimage.

Kaaden, a tn. in Bohemia, on the Eger, 20 m. N.E. of Carlsbad, has a church founded by Knights of St. John. Pop. 8630.

Kaalund, Hans Vilhelm (1818-85), a Danish poet, born at Copenhagen. His principal works are: *Fabler og blandede Digte*, 1844; *Fabler for Börn* (young people, 4th ed.), 1884; *Et Foraar* (6th ed.), 1886; his lyric drama *Fulvia* (5th ed.), 1903; *En Efterraar* (4th ed.), 1889.

Kaap, or De Kaap, gold fields in the Transvaal, S. Africa. Barberton is the business centre.

Kabba, a prov. of N. Nigeria, a British protectorate, on the r. b. of the Niger, covers an area of 7800 sq. m. It is fertile and well cultivated, and good crops of tobacco, indigo, wheat, and cotton are obtained. Other products are rubber, shea, and palm oil. The chief towns are Zungeru (the cap.), Lokoja (ceded to the British in 1841), and Kabba, a British military station. Pop. of prov. 70,000.

Kabbala, *see* CABBALA.

Kabinda: 1. A territory in W. Africa, at the mouth of the R., lies between Portuguese Africa and the Congo Free State, and covers an area of 2800 sq. m. 2. The cap. of the above prov., is a seaport with a good coasting trade. Formerly it was noted for its slave market. Pop. 10,500.

Kabir was a 14th-century religious reformer and was one of the twelve disciples of Ramanand, the great Vaishnava spiritual leader. The principle doctrine inculcated by this disciple was 'bhakti,' or faith in and devotion to a personal god.

Kabul, a city, cap. of Afghanistan, on the Kabul R., 80 m. N.N.E. of Ghuzni. It is of great antiquity, and was formerly walled. It is memorable in modern history for the massacres of the British, and its capture by [illegible] situated [illegible] and is r[illegible] at the junction of several Central Asiatic trade routes, its commerce is extensive, especially in carpets, camels' hair, cloths, and all kinds of skins. Pop. (estimated) 150,000.

Kabul River, rises in the Hindu-Kush, flows E. through Kabul and Jalalabad, and joins the Indus at Attock. It is 270 m. long.

Kadesh, the name of several places in Palestine, and signifies 'consecrated.' K. or K. Barnea was the resting-place of the Israelites before entering the Holy Land, and was the scene of the people's demand for water, whence it derived its new name 'Meribah Kadesh.' This place has been identified by some authorities with Petra, which is 55 m. distant from Beersheba. Mention is also made of two places called K. in 1 Chron. vi. 71-77. One was the K. 'out of the tribe of Issachar,' whilst the other was 'the Kadesh in Galilee out of the tribe of Napthali.'

Kadiak, or Kodiak, an island off the E. coast of Alaska, from which it is separated by the Shelikof Strait. There are several salmon canneries and trade is very brisk. St. Paul, a village on the N.E. coast, is an important centre for furs.

Kadina, a tn. of Daly Co., S. Australia, 85 m. N.W. of Adelaide, copper mines in the district. Pop. 1700.

Kæmpfer, Engelbrecht, *see* KÆMPFER.

Kaf, according to Mohammed, a

legend, was the name of the mountain surrounding the world, and was supposed to be inhabited by giants and fairies.

Kaffa, Theodosia, or Feodosia, a flourishing seaside resort in Russia, is situated on the S.E. coast of the Crimean peninsula, in the Bay of Kaffa. Pop. 28,000.

Kaffa, a tributary state in the Galla country, forming part of Abyssinia. It consists of a large plateau, and is partly drained by the R. Omo. It is regarded as the native home of the coffee plant, which grows there abundantly.

Kaffirs. The K. and cognate tribes are a bold warlike people spread over a considerable part of Southern Africa between Delagoa Bay and Cape of Good Hope, but more especially the eastern part of the colony. The word Kaffir itself signifies 'unbeliever,' and the name was applied to them by the Mohammedans, because they would not be converted to Islam. Ethnically the K. proper are a Bantu tribe quite distinct from the negroid type, being a race of a much higher order of intelligence; but they have, especially farther N., become much intermingled with the negroes. Historically, the K., before the occupation of their territories by the British administration, were by no means a race of untutored savages, of no political pretensions, but could boast innumerable distinct national dynasties, which have given their names to the various tribes reputed to have descended from the real or eponymous ancestry of Zuide, at or about the end of the 15th century. The K. formerly did not evince any particular fondness for either pastoral or agricultural pursuits, but have now for years been notable for their large herds of cattle. The Bechuana breed of cattle are commercially valuable, and are remarkable for horns of a tremendous span, which made them

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on the N.W. by the Drakenberg and Stormberg Mts., on the E. by the Umzimkulu R. and Basutoland, on the N.E. by Natal, and on the S. by Cape of Good Hope; and since 1894, when Pondoland was incorporated, has been divided for administrative purposes into Griqualand East, Tembuland, Transkei, and Pondoland. Kaffraria is a term loosely applied to the whole of the regions occupied by the various K. tribes, but it is better to confine it to British Kaffraria and Kaffraria proper, though even these latter names are fast becoming obsolete. British Kaffraria and Kaffraria proper extend from about lat. 30° to 32° S. Embracing an area of some 20,000 sq. m., they comprise an extremely fertile region, lying near the coast, abundant in forests, rivers, and mountains.

Both the English and the Dutch colonists in S. Africa have cause to know the warlike qualities of the K. In the process of colonisation the Europeans and natives have necessarily come into frequent collision. Towards the end of the 18th century, it was agreed between the K. and the colonists that the Great Fish R. should form the boundary between their respective territories; but for over forty years the K. were constantly breaking over the border and surprising the colonists. Colonel (afterwards Sir Harry) Smith gained a decisive victory after reaching Grahamstown in 1835; but the vacillating policy of the Home Government towards the K. opened the way to fresh outbreaks, and in 1852 Sir Harry Smith again brought success to the British arms, storming the Amatola Mts. with but scanty forces. Peace reigned for a quarter of a century, when the hereditary enmity between the different K. tribes themselves necessitated further repressive measures. It is only within very recent years that the extensive territory comprising the Zulus, Bantus, Hottentots, Gcalekas, Swazis, and Pondos can be said to have enjoyed a measure of peace of any permanent promise. In 1873 the Scottish Episcopal Church founded in Kaffraria the diocese of the Independent (Kaffraria) St. John's. The natives are now under no disability as regards both the franchise and the judiciary, and for the administration of purely native affairs there is a secretary, assisted by two chief native commissioners, twenty-eight native and six assistant native commissioners. Such restrictions as do exist relate exclusively to the supply of arms and liquor. The British South Africa Company is bound to supply the natives with lands for agriculture and industrial purposes, such lands being known as the Native Reserves.

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Kafiristan (Persian *Kafir*, infidel, *stan*, place), a country of Central Asia, lies between Afghanistan and Kashmir, and covers an area of 5000 sq. m. The soil is fertile and watered by the tributaries of the Kabul R. The valleys produce fruits,

including wild grapes and pomegranates, and crops of barley, wheat, and millet. The inhabitants are unlike any of the surrounding tribes, and claim descent from the Greek troops of Alexander the Great. They are independent and warlike, and preserve a fierce enmity against the Mohammedans. It is under the control of the Amir of Afghanistan. Pop. 200,000.

Kaftan, Julius (*b.* 1848), a German Protestant theologian, an adherent of the so-called school of Ritschl, edu- [illegible] Berlin, and Kiel. [illegible] 1873, and [illegible] 1881, and at Berlin University [illegible] 1883. Among his chief works are: *Die Predigt des Evangeliums im modernen Geistesleben*, 1879; *Das Wesen der Christlichen Religion*, 1881; *Die Wahrheit der Christlichen Religion*, 1884; *Glaube und L* [illegible] *wir ein neues D* [illegible] 1897 (last ed [illegible] *und Nietzsch* [illegible] ed.), 1902. [illegible] *Ritschl'sche Theologie*; Lichtenberger, *Hist. of German Theol. in 19th century* (translated by Hastie), 1889.

Kaga, or **Kashiu**, a kuni or old prov. and tn. of Japan, now included in the prefecture of Ishikawa (with cap. Kanazawa).

Kagalnik, a tn. in the gov. of Ekaterinoslav, Russia, situated at the mouth of Kagalnik R. Pop. about 5000.

Kagoshima, the cap. of Satsuma prov., on a bay in S. of Kiushiu Is., Japan, 90 m. S.S.E. of Nagasaki. It has a harbour and lighthouse, manufs. pottery in imitation of 'old Satsuma' ware, cottons, silk, glass, arms, and cigarettes. It was bombarded by the British in 1863, and headed the Satsuma rebellion in 1877. Pop. about 65,000.

Kahla, a tn. of Saxe-Altenburg duchy, Roda dist., Germany. The castle of Leuchtenburg is on a mountain near by, and porcelain is manufactured. Pop. 6396.

Kahnis, Karl Friedrich August (1814-88), a German theologian, professor at Breslau in 1844, and at Leipzig in 1850. He became canon of Meissen in 1860, retiring in 1886. At first a neo-Lutheran, he joined the old Lutheran party later, displaying a liberal spirit which brought him into conflict with Diekhoff, Hengstenberg, and others. His works include: *Die Lehre vom Abendmahl*, 1851; *Der innere Gang des deutschen Protestantismus . . .*, 1854 (Eng. trans. 1856); *Geschichte der deutschen Reformation*, i., 1872; *Die Lutherische Dogmatik . . .*, 1861-68 (2nd ed. 1874-75); *Der Gang der Kirche in Lebensbildern*, 1881. *See* Delitzsch, *Für und wieder Kahnis*, 1863; Winter, *Dr. K. F. A. Kahnis*, 1896.

Kaieteur (or Kaiteeur) Falls, a cataract of Potaro R., a trib. of Essequibo R. in British Guiana. The river falls nearly 800 ft.

Kai-fêng-fu, Kaifung, or **Khaifong** (formerly **Pien-liang**), the cap. of Honan prov., Central China, 10 m. from Yellow R. It was the capital of the Sung dynasty (960-1126 A.D.), and of the empire (1280-1405) as 'Tung-king.' It has possessed a Jewish colony since 1183 (see *Journ. R.G.S.*, 1858). Chucheuchen, near by, is one of the chief Chinese marts. Pop. about 200,000.

Kailas, a spur of the Himalayas, W. Tibet (22,000 ft. high), the sacred 'Paradise' or 'Olympus' of the Hindus. It is between the N. chain of the Himalayas and the Gangri Mts., N.W. of Lake Manasarowar. The [illegible] adus, Sutlej, and Brahmaputra [illegible] ivers rise from it.

Kain: 1. A prov. in E. Persia, on the borders of Afghanistan, is an agricultural dist. The chief products are carpets, skins, almonds, spices, silk, and opium. The capital is Birjand, pop. 27,000. Pop. of prov. 220,000. 2. A tn. in above prov., 60 m. N. of Birjand, was formerly important as a fortified stronghold. Pop. 6000.

Kainite, a hard crystalline mineral consisting of sulphates of magnesium and potassium, and magnesium chloride. It is found in great quantity in the salt mines of Stassfurt and other places in Germany. It is used as a fertiliser and as a source of potassium and magnesium compounds.

Kaipara Harbour is situated on the W. coast of North Is., New Zealand, and is about 5 m. wide. The surrounding forests produce Kauri pine.

Kaiping, a tn. in the prov. of Pechili, China, situated about 73 m. N.E. of Tientsin. It stands in the centre of a coal-producing district.

Kaira, or Kheda, a tn. 20 m. S.W. of Ahmadabad, in Bombay, British India. It is at least as old as the 5th century A.D. Pop. 10,392. Rice, cotton, and millet grow in plenty in the fertile district of K., which is watered by the Mahi in the S., and the Sabarmati in the W. Pop. 720,000.

Kairwan, a city of Tunis, 30 m. [illegible] an ancient, holy place [illegible] [illegible] the chief articles of [illegible] carpets, morocco-leather goods, and copper wares. Pop. 20,000.

Kaisarieh (ancient *Cæsarea*), a tn. in the vilayet of Angora, Turkey in Asia, situated 160 m. S.E. of Angora. Pop. (estimated) 72,000. *See* CÆSAREA

Kaiserslautern, a tn. of the Palatinate, Bavaria. It is an important manufacturing centre, the chief articles produced being cotton yarn, sewing machines, boilers, and shoes. The town also possesses railway shops and iron works. Its castle, which was built during the 12th century by Frederick Barbarossa, was destroyed during the 18th century. Pop. 54,665.

Kaiser Wilhelm Canal, in Schleswig-Holstein, extends from the Elbe above Brunsbüttel to the Baltic at Holtenau above Kiel. It is 61 m. long, and 29 ft. deep. The construction was first begun in 1887, and the canal was first opened for traffic in June 1895. At present it is only suitable for small vessels, but it is being enlarged, so as to accommodate the largest battleships.

Kaiser Wilhelm's Land, a German protectorate in the N. of New Guinea, together with Long, Dampier, and a few small islands, covers an area of 70,000 sq. m. It is mountainous, the principal heights being the Bismarck Mts. The Kaiserin-Augusta and Ramu Rivers flow through it. It is well wooded, bamboo, ebony and palms grow there. Cotton, tobacco, coffee, and sago are the chief crops. The capital is Herbertshöhe. Pop. 110,000.

Kaisong, or Song-do, a tn. in Korea, situated 35 m. N.W. of Seoul. This tn. was the cap. of Korea from 910 to 1392. Pop. about 60,000.

Kaithal, or Kythal, a tn. 46 m. S.W. of Ambala, in the Karnal dist. of the Punjab, British India. Cattle, corn, and blankets are the chief articles of commerce, but saltpetre and cotton are also manufactured. There are several 13th century Mussulman tombs. Pop. 16,000.

Kalahari, a tract of country in S. Africa, between the Zambesi and Orange Rivers, is often called K. Desert, although true desert conditions do not prevail, for many parts are at times covered with grass and scrub, which provides cover for game. It consists of sandy plateaux, containing 'salt pans,' probably remnants of inland lakes now dried up. There is a very slight rainfall, and all the rivers are periodic, excepting the Okavango, flowing into Lake Ngami. The inhabitants, called Bakalahari, live chiefly by hunting, and number 50,000.

Kalamata, or Kalamæ, the cap. of the nomarchy of Messenia, in Greece, has been on more than one occasion the scene of political disturbances. It was sacked by Ibrahim Pasha in 1825. The district is very fertile. Pop. 20,000.

Kalamazoo, a city in the co. of Kalamazoo, Michigan, U.S.A., 144 m. W. of Detroit. Besides possessing many schools and colleges, it owns the state insane asylum. Pop. (1910) 39,437.

Kalanao, the famous leper settlement founded by Father Damien on Molokai in the Hawaiian Is. It lies at the foot of almost inaccessible mountains and contains many schools and churches.

Kalantan: 1. A former state of Siam, in the Malay Peninsula, S. of the Patani States, now a protectorate of the British government. It has an area of 7000 sq. m., a great part of which is covered with jungle. The chief products are tin, gold, lead, and pepper. Pop. 300,000. Cap., Kota Bharu, 140 m. N.E. of Penang. Pop. 10,000. 2. A tn. in the above state, has considerable trade in the native products. Pop. 20,000.

Kalatch, a river port on the Don, S. Russia. The railway connecting the Don with Tsaritsyn on the Volga has its terminus here, and the goods, principally fish, cereals, petrol, and timber, brought from the Caspian Sea up the Volga, are unloaded at Tsaritsyn and sent to K. for export. The permanent pop. is about 1200, but it increases in the summer.

Kalbe, a tn. on the Saale, Prussian Saxony, 15 m. S.S.E. of Magdeburg. Textile industries, sugar. Pop. 12,000.

Kale, *see* BORECOLE.

Kaleidoscope (Gk. καλός, beautiful, εἶδος, form, σκοπεῖν, to see), an optical instrument invented by Sir David Brewster in 1817. It consists of a tube about a foot long, along the whole length of which extends two mirrors or reflecting glass plates placed at an angle of 60°. One end of the tube is closed with a metal plate having a small hole or eye-glass, whilst the other end is closed with two glasses separated by a number of small fragments of coloured glass. On turning the tube round its axis various gay patterns appear successively before the vision. *See* Brewster, *Treatise* (2nd ed. 1858).

Kale-i-Sultanieh, or Tchanak-Kalessia, a fortified seaport of Asia Minor, on the Dardanelles, 20 m. S.W. of Gallipoli. It is noted for the manuf. of pottery. Pop. 10,000.

Kalendar, *see* CALENDAR.

Kalends, *see* CALENDS.

Kalevala, or Kalewala, a national epic of the primeval Finnish race, which was probably composed at different times by various bards. The scattered songs were first collected into a written form by Dr. Topelius in 1822, which edition was followed by the completer and more systematic one of Dr. Lönnrot in 1835. The poem relates the story of Wäinämöinen, Ilmarinen and Lemminkäinen, the

three sons of Kalewa (Finland), and deals entirely with the ancient mythology and folklore of the early Finns. *See* English translation by J. M. Crawford, 1888.

Kalf, Wilhem (c. 1630-93), a noted Dutch painter, pupil of Hendrik Pot. He produced mostly still-life pictures, and became famous as a painter of pots, vases, and utensils. His painting on silver and glass was especially successful. See examples at Amsterdam, Louvre, Dresden, Copenhagen, and St. Petersburg.

Kalgan, a tn. in the prov. of Chi-li, China. It is situated near the Great Wall and lies about 120 m. N.W. of Peking. It occupies an important position commercially, as it lies on the route from Peking to Siberia, and is the centre of the tea trade between the two. Pop. (estimated) 70,000.

Kalgoorlie, a tn. and dist., E. Coolgardie goldfields, W. Australia, 340 m. E.N.E. of Perth. Pop. (tn.) 18,000, (dist.) 30,000.

Kali (black), of Hindu mythology, the goddess of death and destruction, and the wife of Seva. She is represented as black, with four arms and blood-stained face, breast, and palms.

Kālidāsa, a celebrated dramatist and poet of India. Native tradition places him in the 1st century B.C., but it is more probable that he lived in the 3rd century A.D. He wrote three plays: *Sākuntala* (The Lost Ring, trans. by Sir William Jones, 1789), *Vikramorvasi*, and *Mālavikāgnimitra*, while the two epics *Raghuvamsa* and *Kumārasambhava* have also been ascribed to him, as well as some lyrical pieces. It is probable that there were really three poets. *See* Macdonell's *History of Sanskrit Literature*, 1900.

Kalif, *see* CALIF.

Kalimno, or **Kalymnos** (ancient *Calymna*), an island of the S.W. coast of Asia Minor, 15 m. N.W. of Cos. Kalimno, the cap., is the chief centre of the sponge industry in the Levant, and is celebrated for its honey. Pop. 9000. Area 42 sq. m.

Kalinga, one of the nine ancient kingdoms of S. India, extending, according to tradition, along the E. coast of Madras from 13½° to 18½° N.

Kalingapatan, a seaport tn. of Madras, British India, at the mouth of the Vangsedhara, is 95 m. S.W. of Ganjam. It is the only safe harbour in the district during the monsoons. Pop. 5000.

Kalinjar, an isolated hill fortress and shrine in India, on a spur of the Vindhya Mts. overlooking the plains of Bundelkhand in the United Provinces. K. is of [illegible] is mentioned in [illegible] all sides of the [illegible] statues and temples, the latter including the celebrated Nil Kantha Mahadeo.

Kalisz: 1. A western prov. of Russian Poland, bounded on the W. by Prussia, and covers an area of 4377 sq. m. It is divided into eight districts. The surface is flat and the soil fertile. The Prosna and the Warta are the chief rivers. The inhabitants are almost entirely occupied in agriculture, a few manufactures—cotton, sugar, and paper—being carried on. Pop. 1,126,700. 2. A tn., cap. of above prov., on the Prosna, is 130 m. W.S.W. of Warsaw. It is the ancient Calisia of Ptolemy, and contains remains of great antiquity. In 1706 the Swedes were defeated here by Augustus of Poland, and in 1813 the treaty of alliance was signed between Prussia and Russia. The chief industries are distilling, weaving, tanning, and tobacco. Pop. 46,796.

Kalitvenskaya, a Cossack tn. of Russia in the prov. of Don; there are stone quarries in the neighbourhood. Pop. 23,000.

Kalk, a former tn. in the Rhine prov., Prussia, on the Rhine, now incorporated in Cologne. It is an important manufacturing centre, and has foundries, chemical works, rolling mills, and porcelain factories.

Kalkandele, a tn. in what was once European Turkey, vilayet of Kossovo, 25 m. W. of Uskūb. Pop. 15,000.

Kalkbrenner, Christian (1755-1806), a German-Jewish musician, father of Friedrich K. (*q.v.*), famous principally for his work at the court of Berlin, and later with the Opera, Paris, where he was chorus-master (1799). He also published an unsuccessful history of music (1792).

Kalmar, a fortified seaport tn. of Sweden, 47 m. N.E. of Karlskrona, is the capital of Kalmar prov. It is built mostly of wood on the island of Quarnholm in Kalmar Sound, and connected with the mainland by a bridge of boats. The chief manufactures are matches and paper. It has a good harbour and does a considerable coasting trade. There is a fine 17th century cathedral and a castle dating from the 12th century. In 1397, by the Kalmar Union, the crowns of Denmark, Norway, and Sweden were united under the sovereignty of Queen Margaret. Pop. 15,000.

Kalmucks, Kalmuks, or Calmucks, a division of the Mongol race, living in parts of Asia and Russia, chiefly in Zungaria, Koko-nor, and parts of Northern Tibet, along the Steppes [illegible] Volga, and in the government [illegible] strakhan. They are a nomadic [illegible], dwelling chiefly in tents. In 1771

a large body of these people left Russia owing to their discontent at the Russian rule, journeyed to China, and settled there. At the present time they are divided, some being under the rule of Russia and others forming part of the Chinese empire.

Kalna, or **Culna**, a tn. in the dist. of Burdwan, Bengal, British India, situated on the R. Bhagirathi, about 42 m. N.W. of Calcutta. Pop. 8000.

Kalnoky, Gustav Siegmund, Count (1832-98), an Austro-Hungarian statesman, born at Lettowitz in Moravia, of a noble Transylvanian family. He was secretary of embassy in London (1860-70), and subsequently became ambassador at St. Petersburg (1880), and Minister of Foreign Affairs for Austria-Hungary (1881-95). He improved the relations between his own country and [illegible] a commercial [illegible] Servia and [illegible] at Prödlitz in Moravia.

Kalocsa, a tn. and Roman Catholic archiepiscopal see, Hungary, on the l. b. of the Danube, 86 m. S. of Budapest. Here is a beautiful old cathedral, an archiepiscopal palace, and an observatory. Trade in wine, fruit, flax, and cereals. Pop. 12,000.

Kalomo, a tn. of N.W. Rhodesia, Africa, 90 m. N.E. of the Victoria Falls. It was once the centre of administration now transferred to Livingstone. Pop. 5000.

Kalpa-sūtra, or **Kalpa-sōūtra**, the name of certain Sanskrit writings dealing with the ceremonial connected with a Vedic sacrifice. It is also the name of the most sacred book in Jaina literature. *See* Jacobi, *The Kalp* [illegible] 1879; and [illegible] *of the Jains*

Kalpi, or [illegible] United Prc [illegible] of Jumna, [illegible] Chief trade, cotton. Pop. 10,000.

Kaluga: 1. A gov. of Central Russia, is bounded by the governments of Moscow on the N., Tula on the E., Orel on the S., and Smolensk on the W. The surface is an elevated plain and the soil is unfertile and incapable of producing crops sufficient for the inhabitants. The chief river is the Oka. K. is divided into eleven districts. Pop. 1,387,100. 2. A tn., cap. of above gov., on the Oka, is 95 m. S.W. of Moscow. It manufs. leather, tallow, glass, mats, and paper, and has iron foundries, cotton mills, and tanneries. Pop. 53,854.

Kalusz, a tn. of Austrian Galicia, 28 m. S.E. of Stryj. There are salt mines. Pop. 8660.

Kama, a river in Russia, is the longest tributary of the Volga. It rises in the government of Vyatka and flows W. through Ufa and Kazan, joining the Volga 40 m. below the city of Kazan. It is navigable for 930 m., and is an important line of communication between Siberia and St. Petersburg. Its length is 1172 m.

Kāma, or **Kāmadeva**, of Hindu mythology, the god of love, the son of Brahmā or Dharmā, and the husband of Rati (voluptuousness). He was destroyed by Siva, whom he attempted to seduce, but was afterwards re-born as the child Pradyumna (Cupid).

Kamchatka, a peninsula in the N.E. of Asia, between Behring Sea and the Sea of Okhotsk, forms part of the prov. of Siberia. Its area is 104,260 sq. m. Cape Lopatka forms the S. extremity. Two parallel ridges of mountains occupy a great portion of the interior, running S.W. to N.E. From N. to S. is a range of volcanic mountains, most of them extinct. The highest peak is Kliutchevskaya, 15,750 ft., its latest eruption occurred in 1854. On the S.E. are the bays of Kamchatka, Kronotski, and Petropaulovsk. The chief river is the Kamchatka, 300 m. long. Fishing and hunting are the chief occupations; salmon and other food fish are plentiful, and bear, fox, sable, seals, and squirrels supply furs which are largely exported. Copper, iron, mica, and sulphur are found, and in the milder climate of the interior rye, barley, and [illegible] The principe [illegible] a seaport on [illegible] is very severe, and the scanty population numbers only 8400.

Kamenetz-Podolsk, a tn. in Russia, [illegible] of Podolia, is on the [illegible] of the Dniester, 240 [illegible] ssa. It is an ancient [illegible] a Roman Catholic [illegible] 14th century and a [illegible] of the 16th century. It was annexed to Russia in 1795. Pop., of which a great proportion are Jews, 36,000.

Kamenskaya, a ter. in Russia, 65 m. N. of Novo-Cherkask on the River N. Donets, in the prov. of *Don Cossacks*. Pop. about 24,000.

Kamenz, a tn. in the kingdom of Saxony, Germany, on the Schwarze Elster, 30 m. N.E. of Dresden. It is the birthplace of Lessing, the German dramatist. The chief manufs. are glass, pottery, and tobacco. Pop. 11,553.

Kamerun, *see* CAMEROON.

Kames, Henry Home, Lord (1696-1782), a Scottish lawyer and philosopher, born in Berwickshire. He was raised to the bench in 1752, and in 1763 was made one of the lords of justiciary. Lord K. was greatly

interested in agricultural enterprise, and, besides possessing an extraordinary knowledge of law, studied metaphysics and philosophy and a voluminous writer. Consult *Life* by A. F. Tytler, Lord Woodhouselee (2 vols.), 1807.

Kaministiquia River, rises in Ontario, S.W. of Lake Nipigon, and flows into Thunder Bay, Lake Superior, passing over the Kakabeka Falls (130 ft. high).

Kampen, an old fortified seaport tn., on the Yssel, in the prov. of Overyssel, Holland, is 9 m. N.N.W. of Zwolle. It was one of the Hanseatic towns, and had a thriving trade which declined owing to the silting up of the harbour. Jetties have been constructed and it is again flourishing. The chief manufs. are blankets, machinery, cigars, and bricks. Pop. 19,745.

Kamperduin, or Camperdown, a vil. on the coast of Holland, in the prov. of N. Holland, 27 m. N.W. of Amsterdam. Off K. Admiral Duncan defeated the Dutch fleet under De Winter (1797).

Kämpfer, Engelbert (1651-1716), a German traveller, born at Lemgo in Lippe. He travelled through India, Ceylon, Java, Siam, and Japan from 1683-94, and as a result of his travels wrote a *History of Japan and Siam*, which appeared posthumously in 1727. He was also the author of *Amœnitates Exoticæ*, 1712.

Kampti, *see* KAMTHI.

Kamrup, a dist. of Assam, British India, in the Brahmaputra Valley, has an area of 3660 sq. m. The cap. is Gauhati. The chief products are rice, mustard, and tea; the manufs. are silk, brass ware, and filigree work. Pop. 590,000.

Kamtchatka, *see* KAMCHATKA.

Kamthi, or K[illegible] tn., Nagpur di[illegible] S m. N.E. of [illegible] and timber are exported. Pop. 40,000.

[illegible] fortress, and tre[illegible] Tokyo Bay, Ja[illegible] Yokohama. Pop. about 12,000.

Kanakas, a term used by the Polynesians to describe themselves, *Kanaka*, or *Tahaka*, signifying 'man.' The word is used indiscriminately by white races to describe all South Sea Islanders. The islanders were formerly forced into labour and exported to the Queensland sugar plantations of Australia. The traffic was prohibited in 1906.

Kananur, or Kananore, a seaport and military station on the W. coast of India, Malabar dist., Madras, 53 m. N.N.W. of Calicut. Exports timber, grain, and cocoanuts. Pop. 28,000.

Kanara: 1. **North**, a dist. in the S. of Bombay Presidency, India, has for its W. boundary the Arabian Sea. It contains extensive forests, yielding teak and bamboos and abounding in tigers, [illegible] chief in[illegible]ving, and [illegible] town is Karwar. Area 3910 sq. m. Pop. 455,000. 2. **South**, a dist. on the Malabar coast of Madras, India, has an area of 4000 sq. m. It exports coffee, copra, rice, spices, and wood. The chief town is Mangalore. Pop. 1,135,000.

Kanaris (or **Canaris**), **Constantine** (1790-1877), a Greek patriot, born in the island of Psara. In the cause of Greek independence he blew up Captain Pasha's flagship with 2000 Turks (1822), repeated his feat at Tenedos in the same year, and wrought further damage to the Turkish fleet in 1824-25. He became Minister of Marine (1854-55) and, after the revolution of 1862, became premier to the new king.

Kanauj, an ancient city in Farrukhabad dist., British India, 50 m. N.N.W. of Cawnpore, is on the Kali Nadi R., trib. of the Ganges. It was formerly one of the most important cities of India, and is surrounded by ruins of its decayed greatness. It manufs. otto of roses, paper, and cotton goods. Pop. 18,500.

Kanawha, Great River, *see* GREAT KANAWHA.

Kanazawa, a tn., cap. of the prov. of Kaga, on the W. coast of Japan. It manufs. the celebrated Kaga porcelain, bronze, and silver wares, and silk. It has a castle, fine public gardens, and a technical museum. Pop. 110,994.

Kandahar, or Candahar, the cap. of the prov. of Kandahar, in S.E. Afghanistan. It is situated about 280 m. S.W. of Kabul, and at a height of about 3500 ft. above sea-level. The city itself, which is well watered, is a place of great [illegible] centre; among[illegible] being silk, felt, [illegible] to tradition it was founded by Alexander the Great, and for about thirteen centuries practically nothing is known of its history. In 1839 it was occupied by the British, and in 1842 General Nott successfully defended it. In [illegible] took pos[illegible]80, when besieged by Ayub Khan, was relieved by Earl Roberts. Pop. variously estimated from 25,000 to 50,000.

Kandavu, or Kandabu, Island, one of the Fiji Group. Mountainous; length 35 m.; breadth 4 m.

Kandy, a tn. in Ceylon, 58 m. N.N.E. of Colombo, was formerly the capital of the island. It is splendidly situated, 2000 ft. above sea-level, on the shore of an artificial lake. The Buddhist temple, Dalada Malagawa,

is visited by pilgrims for the supposed tooth of Buddha it contains, and also its ancient manuscripts. Near by are the botanical gardens of Peradenia. It was finally occupied by the British in 1815. Pop. 26,522.

Kane, a tn. and summer resort in M'Kean co., Pennsylvania, 75 m. E.S.E. of Erie, U.S.A. There are railway works, lumber mills, and glass works. It is an oil and gas district. Pop. (1910) 6626.

Kane, Elisha Kent (1820-57), an American explorer, born at Philadelphia. He took his medical degree in Pennsylvania University and became a surgeon in the navy, and visited India, China, Africa, and Mexico. Twice he went on Arctic expeditions to discover traces of Franklin, and received a gold medal from the Royal Geographical Society. He died [illegible] are *The* [illegible] *tion* and [illegible] *tion in S* [illegible]

Kane, Sir Robert (1809-90), a chemist, born in Dublin. He was educated there and became a professor of chemistry in 1831. He held various other professorships and received a gold medal from the Royal Society, London, for research into the colouring matter of lichens. In 1846 he was knighted, in 1849 he was made president of Queen's College, Cork, and in 1877 he became president of the Royal Irish Academy. His chief works were *Elements of Chemistry* and *Industrial Resources of Ireland*.

Kanem, a former state in Central Africa, on the N. and E. of Lake Chad, but is now part of French Equatorial Africa. Its area is 28,000 sq. m. It was founded in the 9th century and came under French control in 1903. The chief towns are Mao on the E., and Mgigmi on the N.W. of Lake Chad. Pop. 100,000.

Kangaroo, or *Macropus*, a genus of marsupial quadrupeds almost entirely confined to Australia and the neighbouring islands, though a few species are found in New Guinea. They form one of the most prominent and characteristic features of the fauna of these lands. Ks. vary considerably in size; the great K. attains a length of 8 ft. including the tail, whereas the wallabies (brush-kangaroos) and rat-kangaroos, both of the same genus, are comparatively small. They are distinguished primarily by the possession of a pouch (*marsupium*), in which they carry their young at birth and to which the latter go for shelter, after they are able to run and jump. They possess six teeth in the upper jaw and two in the lower, the canines being absent or rudimentary. The head is small compared with the rest of the body, and tapers forward. The shoulders and fore limbs are feebly developed, but the hind limbs are greatly elongated, and by means of these and the powerful tail the K. is able to take long leaps and make swift progress. The fore feet have five toes, each furnished with a strong, hooked claw. The hinder feet are extremely long and narrow, and possess only four toes, the centre one, corresponding to the fourth of the human foot, being greatly developed, and terminating in an elongated nail, resembling a hoof. Ks. are formidable consumers of pasture, and browse on grass and various kinds of herbage, and are hunted by colonists as much on account of the damage they do in eating grass required for cattle and sheep, as for sport. They are by nature timid and inoffensive, except when brought to bay, when they will defend themselves with their sharp claws and powerful hind legs. The fur is soft and woolly and lighter in tint below than above; the skin being of value for both shoe and glove leather. The flesh is said to be nutritious and savoury, resembling mutton, the tail especially being considered a delicacy. In the Zoological Gardens of London the Ks. and wallabies breed freely. *See* Ingersoll, *Life of Animals: Mammals*, 1906.

Kangaroo Island, in St. Vincent Gulf, S. Australia, is cut off from Yorke's Peninsula by Investigator Strait. It was discovered by Captain Flinders in 1802. Its area is 1700 sq. m. Pop. 600.

Kangaroo Valley, a post tn. of New South Wales, in Camden and St. Vincent co., nearly 100 m. S. of Sydney. Pop. 2000.

Kangavar, or **Kengavar**, a small dist. of Persia between Hamadan and Kermanshah, forming a separate government, being held in fief by the family of a deceased court official. The district is fertile and contains thirty villages, of which the largest, Kangavar, has 2500 inhabitants.

Kangra, or **Nagarkot**, a tn. and former cap. of a dist. of the same name in the Jullundur division of the Punjab, British India, 90 m. E.N.E. of Amritsar. The famous temple of Devi Bajreshri was destroyed by the earthquake of April 4, 1905. Pop. (1901) 4746. The dist. of Kangra lies between the Jullundur dist. and the southern Himalayas. Dharmsala is the chief town of the district. There are wide tea plantations, and opium, rice, spices, and tea are grown. Area 9978 sq. m. Pop. 768,124.

Kanizsa, Nagy, or Great Kanizsa, a tn. in the co. of Zala, 135 m. S.W. of Budapest, Hungary, is a free royal

town. The chief manufactures are spirits and tiles. Pop. 23,000.

Kanizsa O, or Old Kanizsa, a tn. on the Theiss, in the co. of Bacs-Bodrog, Hungary, is 14 m. S.W. of Szegedin. It has considerable trade in agricultural produce. Pop. 16,500.

Kankakee, a city in Illinois, cap. of Kankakee co. on the Kankakee R., U.S.A., is 52 m. S.W. of Chicago. It has limestone quarries and paper-mills, and manufactures bricks, machinery, and cigars. It contains the Illinois State Hospital for the Insane, and many fine public buildings. Pop. (1910) 13,986.

Kankan, a tn. of French Guinea, W. Africa, situated on the Milo, 158 m. S.S.W. of Bammaku. It is a trading centre.

Kano, a prov. and tn. of Northern Nigeria. The former has an area of 31,000 sq. m., and includes Katagum [illegible] 0,000. The com- [illegible] industries are cloth-dyeing and weaving, and the manufacture of leather goods. Pop. 50,000.

Kanobin, a Turkish vil. of Syria, situated 12 m. S.S.E. of Tripoli; there is a Maronite monastery here.

Kansas, a N. central state of U.S.A., bounded on the N. by Nebraska, E. by Missouri, S. by Oklahoma, and W. by Colorado, covers an area of 82,158 sq. m. There are no mountains, and only one navigable river, the Missouri. The surface is undulating prairie covered with rich loam of the highest agricultural value. The eastern part of the state is covered by carboniferous formations, the W. by Pliocene deposits, and the remainder by Cretaceous and Tertiary deposits. Bituminous coal, lead, zinc, gypsum, and salt are found, and petroleum wells furnish a valuable supply of oil. The chief crops are wheat, Indian corn, oats, potatoes, sorghum, flax, and tobacco. The state is not naturally well wooded, the trees are usually small and found in river bottoms; red cedar is the only native evergreen. The luxuriant growth of wild sunflowers has given K. the name of the Sunflower State. Agriculture and cattle raising employ most of the people, and manufacturing industries connected with them, as beef and pork packing, flour mills, and the manufacture of agricultural implements, are the most important. It is divided into 105 counties, the principal towns are Kansas City, Topeka (the capital), Wichita, Leavenworth, Atchison, Lawrence, and Fort Scott. The greater part of it was acquired by the Louisiana purchase, 1803, and completed in 1850, when the Mexican territory was taken over. It suffered much during the Civil War. According to the Constitution of 1861, the legislature consists of a senate and a House of Representatives elected for four and two years respectively. Eight members of the latter represent the state in Congress. The governor and executive officers are chosen for two years. Pop. (1910) 1,690,949.

Kansas City: 1. A city and cap. of Jackson co., Missouri, U.S.A., on the Missouri R. It is an important railway and trading centre, and situated at the junction of several railway systems. There are smelting and refining works and flour mills. The chief industry is meat packing. The public buildings are imposing, and large sums of money have been spent in grading the site, which was very uneven. Pop. (1910) 248,381. 2. The largest city of Kansas state and cap. of Wyandotte co., situated at the junction of the Kansas and Missouri Rivers. It has immense meat-packing houses, second only to Chicago, and an important grain and flour trade. Its manufactures include soap, machinery, and railway locomotives. It is the seat of a university. Pop. (1910) 82,331.

Kansk, the chief tn. of a district of Eastern Siberia, in the gov. of Yeniseisk, on the Kan R., 151 m. E. of Krasnoyarsk. The district is auriferous, but liable to inundation from the river. Pop. 8750.

Kansu, a N.W. prov. of China, is bounded N. by Mongolia, S. by Szechuen, E. by Shensi, and W. by Tibet. It covers an area of 88,700 sq. m. It is mountainous, on the S.W. the great Nan-shan Mts. form the Tibetan border. The Hoang-ho is the principal river, flowing from W. to N.E. Min [illegible] especially coal. [illegible] and good crops [illegible] tobacco are obtained. The climate is very dry. Trade is carried on chiefly with the E. provinces, the products are mainly dyes, silk, tobacco, mercury, wool, and cattle. The capital is Lanchow. The main trade route from Peking to Kashgar passes through the prov. Pop. 10,385,376.

Kant, Immanuel (1724-1804), one of the most important of modern philosophers, and perhaps the greatest of all metaphysicians, born of Scottish descent at Königsberg (E. Prussia), a hotbed of pietism. As far as actual incident is concerned, his life offers but few points of interest to a biographer. He was soundly educated at the gymnasium of his birthplace, and subsequently at the university, whither he proceeded in 1740 to study mathematics, theology, and philosophy, the latter chiefly of the Wolffian school, which at that time held sway

in Germany. Towards the end of the six years he spent there, he was sorely pressed for money, on account of his father's death; and from 1746-1755 earned a scanty living as private tutor. In 1755, obtaining his degree of doctor of philosophy, he became a docent, *i.e.* a private lecturer under the control of the university, and eleven years later he was appointed a sub-librarian, a position carrying a salary of about £11 per annum. It was not until 1770 that he succeeded to the coveted professorial chair; and in the ne[illegible] he lectured not only [illegible] and logic, but also on [illegible]

[illegible] been idle in the literary field; his first book, *Thoughts on the True Estimate of Living Forces*, was published in 1747, and the *Theory of the Heavens* in 1755. *Dreams of a Visionary*, his first really significant work, appeared in 1766, probably inspired by his reading at that time of Swedenborg. This work has sometimes been regarded as the introduction to his ambitious system of critiques which came later; but perhaps it would be more correct to assign that place to his Latin treatise, *Dissertatio de Mundi Sensibilis* (1770). It was only during his occupation of the chair of philosophy at Königsberg University (1770-97) that he was recognised at all widely as a profound and original thinker. As a lecturer he was successful, although his weak voice, deformity, and slight physique were hardly of service to him in commanding respect and attention. His ultimate fame rests on the writings of the later part of this period, of which the *Critique of Pure Reason* (1781), his best-known work, and the basis of all his su[illegible]me first. As an [illegible]e published [illegible] a year or so later an explanatory popular version was issued by one of his students; the *Metaphysic of Ethics* (1785), and *Metaphysic of Nature* (1786) appeared, and the critique passed into its second edition in 1787. Meanwhile, Königsberg had become the centre of philosophical activity, and K.'s method had been adopted by nearly all the German universities, not only for philosophy, but also in some instances for combination with Christian ethics. The remaining critiques, *Of Practical Reason* (1788) and *Of Judgment* (1790), complete the list of his most important works. In 1792 his teaching was censored by the Prussian government on account of the anti-Lutheran ideas in his rationalistic thesis, *On Religion within the Limits of Reason alone*, of which the first part had appeared in the *Berlin Journal*, to which he was a [illegible] ually, as [illegible] ns of im- [illegible] gour, and [illegible] ed at the [illegible] npiricists [illegible] eclectic triviality and dogmatic prejudice of the existing German schools. It is customary to divide his work into three periods: (1) Influenced by Leibnitz and Wolff; (2) a reaction [illegible] (1) under the influence of the empirical philosophers; and [illegible] critical period, during which his own philosophy found mature expression. It is necessary to explain, before considering the main points of his teaching, that by 'pure' he meant that which is isolated from actual experience, and by 'empirical,' that which results from actual experience. The chief divisions which he made in his own system were (*a*) transcendental, and (*b*) metaphysical; the former he developed more fully, and has had more influence on subsequent thought—he has been called the re-creator of the transcendentalism of cognition. He divides the mind into (*a*) Intellect, subdivided into sensibility (passive), and thought (active); (*b*) Sensation, or Feeling, the lowest cognitive faculty; and (*c*) Volition. The old rationalism he rejects, for its psychology he substitutes his examination of the subject; for its cosmology, his examination of the object; and for its theology, his examination of the relation between subject and object. Identifying the conception of God with the more general law of ethical necessity, he places responsibility on the reason as opposed to the emotions. That it should be possible for a man to accept this responsibility, it is necessary that he should be free from the control of the physical laws of natural causality. This spiritual emancipation, the elevation of subject over object, of noumenon over phenomenon, is attained as his critical conclusion that phenomena do not exist in themselves, but only in relation to the mind, with which they are, therefore, conformative. He denied the existence of any law of [illegible] truth [illegible] rmed. [illegible] ly by [illegible] a process of schematisation does an object offer itself as a cognisable unit to the combined divisions of the mind, (*a*) the sensuous intuitions of time and space, and (*b*) the pure notions of understanding or 'categories'—the twelve categories being grouped under the four 'forms' as

follows: (1) Quantity (Unity, Multitude, Totality); (2) Quality (Reality, Negation, Limitation); (3) Relation, (between substance and accident, cause and effect, action and reaction); and (4) Modality, (Possibility, Existence, Necessity). His *Critique of Pure Reason* is an examination of experience and of the laws of practical reason which he ultimately announced as its controlling force; practical reason becomes one with morality, and the supreme cause is a moral cause, *i.e.* the subordination of the empirical, or sensuous, to the pure, or intellectual. His final dicta on the relation of noumenon and phenomenon, *i.e.* experience, are to be found in his *Critique of Judgment*, in which he traces the ultimate value of life to ethical teleology. From his system of critical or transcendental idealism were developed the 'subjective' idealism of Fichte, the 'objective' of Schelling, and the 'absolute' of Hegel; and his works also influenced Jacobi, Schleiermacher and Schopenhauer.

Bibliography.—Editions of K.'s works: German: Rosenkrantz and Schubert (Leipzig, 1838-42), Hartenstein (Leipzig, 1838-39 and 1867-69); *see also* Paulsen, *Kant, sein Leben und Lehre*, 1898 (Eng. trans. 1902). In English: *Critique of Pure Reason*, trans. Meiklejohn (1852), Müller (1881), and Morris (1882); *Theory of Ethics*, Abbot, 1873; *Critique of Judgment*, Bernard, 1892; *Critical Philosophy*, Caird, 1859; and *Works* by Lewes, Stirling, Mahaffy, and A. J. [illegible] *Philosophy* [illegible] K. in the [illegible] *See* Baldwin [illegible] *ichol.*

Kanturk, a market tn. of Ireland in co. Cork, 30 m. N.W. of Cork. Pop. 1700.

Kaolin, or **China Clay**, is a fine almost impalpable powder of pure white colour, very soft and slightly greasy to the touch (h. 1; sp. gr. 2·2), consisting of hydrated aluminium silicate. It absorbs moisture readily, and when wet is easily moulded, being largely used in the manufacture of porcelain (of which it is the chief ingredient) and of pottery, the absence of iron in the clay resulting in a pure white article after firing. K. is also used in the preparation of sizes for smooth-faced papers, and for loading cheap cotton goods, and is a constituent of many water colours, pa[illegible] a[illegible] fe[illegible] is[illegible] 'l[illegible] Cl[illegible] lain manufacture in China. China clay is also found in large quantities in Cornwall, and in Saxony, France, the United States, and elsewhere. The pure clay is prepared by stirring up the crude material with water and allowing it to settle. It is then dug out and dried over hot flues.

Kapila, the founder of the Sánkhya system of Hindu philosophy, described variously as the son of Brahmā, or the incarnation of Vishnu. The authorship of the *Sankhyasutras* has been ascribed to him.

Kaposvar, a tn. of Hungary and cap. of the prov. of Somogy, situated 30 m. N.W. of Fünfkirchen. Pop. 18,000.

Kappel, *see* CAPPEL.

Kapronczа (Ger. *Kopreinitz*, Hungarian *Koprivnica*), a tn. of Croatia-Slavonia, Hungary, 57 m. N.E. by E. of Agram. Pop. 7000.

Kapunda, a tn. in Light co., S. Australia, 45 m. N.N.E. of Adelaide. It contains the first copper mines worked in Australia, and some marble quarries. It is the centre of a great corn-growing district. Pop. 2000.

Kapurthala: 1. A state in the Punjab, India, between the Beas and Sutlej, has an area of 630 sq. m. The soil of the district is fertile; the chief crops are sugar, tobacco, cotton, and grain. Pop. 315,000. 2. A tn., cap. of above state, 65 m. E. of Lahore, contains the Raja's palace and Randhir College. Pop. 18,600.

Karachev, an old tn. of Russia in the gov. of Orel, with oil works, hemp factories, and a trade in grain, etc. Pop. 16,400.

Karachi, or **Kurrachee**, a seaport tn. of British India, cap. of Sind, is in the Bombay Presidency. It is the chief port for the Punjab and takes most of the traffic of the Indus. The wharves of the extensive harbour are on the island of Kiamari which is connected with the town by the Napier mole, 3 m. long. Large sums of money have been spent on improving the harbour and making the docks and breakwater. It is a railway terminus and busy trading centre, having extensive inland trade with Afghanistan and Turkestan. The chief industries are carpets and metal ware. It was acquired by the British government in 1842. Pop. 151,903.

Karadagh, a dist. of Persia, situated on the northern frontier of the prov. of Azerbaijan, between longi[illegible] 48° E.

K[illegible], *see* CZERNY, GEORGE.

K[illegible], *see* AFIUM KARA

K[illegible] (Black Caps), a people who inhabit the E. coast of the Aral Sea, thus

forming a geographical transition between the Northern Kirghiz and Southern Turcomans. Emigrants have settled in Astrakhan, Kuban, and Siberia. They are a handsome race; their chief occupation is agriculture. Pop. (estimated) 125,000.

Karakol, *see* PREJEVALSK.

Karakoram Mountains, or Mustagh, the name of a range in Central Asia, separating Eastern Turkestan and [illegible] some of the highest mountains in the world, among them being Godwin-Austen (28,278 ft.), and several others over 25,000 ft. high. It is also crossed by several passes, such as the Karakoram, over 18,000 ft. high, and the Mustagh. Extending to the W. there are numerous glaciers and ice-fields, one of the largest being the Baltoro.

Karakorum, the name of two old [illegible] 1. The Uighur [illegible] remain on the r. b. of the Orkhon, a tributary of the Selenga R., in the Talai-Khain-dala Steppe. It flourished between the 7th and 9th centuries, and was deserted on the fall of the Uighur kingdom. 2. The Mongolian cap., about 25 m. S.E. of the above. It was founded by Jenghiz Khan, and its walls were built in 1234-35. The city was visited by Marco Polo in 1275, and was subsequently destroyed by Kublai-Khan, the fourth king of the Mongolian dynasty, for rebelling against his authority. See *Works of the Orkhon Expedition*, 1892; and Campbell's 'Journeys in Mongolia' in *Geographical Journal*, vol. xx., 1903.

Kara-kul: 1. Two lakes, distinguished as 'Great' and 'Little' Kara-kul, in the prov. of Ferghana, Central Asia. The former has an area of 140 sq. m., and lies at an altitude of 13,200 ft.; the latter lies N.W. of the Mustagh-ata peak, at an altitude of 12,700 ft. 2. A tn. of Central Asia in Turkestan, on the Zerafshan, 38 m. S.W. of Bokhara.

Kara-Kum: 1. (Black Sands) A desert in Russian Central Asia, extending between the Ust-urt plateau, on the N. and W., the Amu-daria on the N.E., and the Turcoman oases on the S., with an area of about 110,000 sq. m. 2. A desert in Turkestan, S. of Khiva, also known as the Desert of Khiva.

Karamania, *see* CARAMANIA.

Karamzin, [illegible] (1765-1826), a [illegible] historian, born at Mikhailovka in Orenburg. He studied at Moscow and St. Petersburg, and, after travelling through Europe and in England, he published his *Letters of a Russian Traveller* (1797-1801), and estab- [illegible] His great *of Russia* [illegible] 1810-29), which he brought down to the accession of Michael Romanov (1613).

Karasjok, [illegible] centre of an auriferous district. Pop. 1600.

Karanja, a tn. of British India, situated in the district of Berar, and about 36 m. S.S.W. of Amráoti. Pop 16,500.

Kara Sea, a part of the Arctic Ocean in the N.E. of Russia, between Nova Zembla and the Yalmal Peninsula, Siberia. On the W. it is entered by Matochkin Strait, and on the S.W. by the Straits of Kara and Yugor. The chief inlets are Kara Bay and the Gulf of Obi. It is only open for two months in the year; at other times it is blocked by ice.

Karashahr, a fort and oasis of Chinese Turkestan, situated in latitude 42° 10′ N., on the R. Yulduz. Pop. 5000.

Karasu-Bazar, a tn. of Russia, in the Crimea. In the vicinity are vineyards and gardens, and an export trade in fruit is carried on. Pop. 13,000.

Karategin, a dist. of Bokhara, Central Asia, S. of the Russian prov. Ferghana, has an area of 4300 sq. m. It is very mountainous, and is watered by the Surkh-ab or Kizil-su. The chief occupations are agriculture and cattle raising; the crops grown are wheat, cotton, hemp, and fruits. The capital is Garm or Harm. Pop. (composed of Tajiks and Kirghiz) 100,000.

Karauli: 1. A state in Rajputana, India, has an area of 1240 sq. m. The surface is hilly and building stone is quarried. The chief manufactures are pewter and brass ware and cloth. Pop. 156,600. 2. A tn. and cap. of above state, is fortified and surrounded by a wall of red sandstone. It contains several beautiful temples and a fine palace. Pop. 23,500.

Karczag, a tn. of Hungary in the co. of Jasz-Nagykun-Szolnok, 36 m. W.S.W. of Debreczin. Pop. 21,000.

Karelia, a dist. in N.W. Russia, including the S.E. part of Finland, was annexed by Peter the Great in 1721. The Karelians are a distinct branch of the Finnish race, inhabiting E. Finland and numbering about 300,000.

Karenni, a dist. of Lower Burma, situa [illegible] 50′ and 19° 5 [illegible] 10′ and 97° 5 [illegible] icipally high [illegible] ft. and

is inhabited by the Red Karens. The district, formerly a collection of small states, is now divided into E. and W. Karenni, having a total area of about 3150 sq. m.

Karens, a native race of Siam and Burma, dwelling among the hilly districts. They number about 727,000, and are supposed to have descended from certain Chinese tribes. Many of them have been Christianised, specially the White K., who differ from the Red K. in being less wild and more law-abiding than the latter.

Karikal, on the Coromandel coast, Madras, India, is a French settlement. Its area is about 52 sq. m. The town lies about 150 m. S. of Madras and exports large quantities of rice. Pop. about 18,000.

Kariot, *see* NIKARIA.

Karli, a cave temple in Poona dist., Bombay, British India, is 34 m. N.W. of Poona. It is the largest known Chaitya cave in India, and bears an inscription dated 78 B.C.

Karlings, *see* CARLOVINGIANS.

Karlooza, or **Karlowitz**, a tn. in Croatia-Slavonia, Hungary, 73 m. S.E. of Peterwardein. In 1699 a treaty was concluded here between Turkey and the four powers of Austria, Poland, Venice, and Russia. It contains a cathedral and is the seat of a Greek archbishop. Famous red wine is made in the district. Pop. 5750.

Karlsbad, a tn. and watering-place of Bohemia, Austria, situated on the Tepl near its junction with the Eger, about 70 m. N.W. of Prague. It lies in a narrow valley at an elevation of over 1000 ft. above sea-level, and contains several famous springs, the water being alkaline. One of the best known is the Sprudel Spring, with a temperature of 165° F. The waters were known on account of their healing properties during the 14th century. The town also manufs. porcelain and other articles. Pop. (1911) 17,446.

Karlsburg, a fortified tn. of Transylvania, Hungary, on the Maros; 50 m. S. of Klausenburg is the ancient Apulum. It contains many Roman remains, an archæological museum, and a fine Gothic cathedral. It is the seat of a Roman Catholic bishop. The chief trade is in agricultural produce and wines. Pop. 10,000.

Karlshamn, a seaport of Sweden, on the S. coast, and in the prov. of Blekinge, situated 30 m. N.E. of Christianstad. Pop. 7209.

Karlskrona, a fortified seaport tn. and chief naval station of Sweden, on the island of Trötso and four smaller ones, in the Baltic, is the cap. of co. Karlskrona. It was named after its founder, Charles XI. The islands are connected with each other and the mainland by fourteen bridges. The harbour, which can accommodate the largest ships, has arsenals, shipyards, and docks blasted from granite rocks; and is defended by strong fortifications. The chief exports are metals, potash, fish, and iron. Pop. 27,448.

Karlsruhe, the cap. of the grand duchy of Baden, Germany, situated about 39 m. W.N.W. of Stuttgart. This city is laid out in the shape of a fan—the palace forming the centre. The chief buildings of the city are the Court Theatre, Zähringen Museum, the Hall of Art, and the polytechnic school. The city is ornamented with fountains, and the gardens of the palace are a public promenade. It is also an important manufacturing centre, among the chief being railway engines and cars, machinery, furniture, carpets, cement, plated goods, and stone ware. This city was laid out in 1715 by the Margrave of Baden. Pop. 133,953.

Karlstad, the cap. of the co. of Vermland, Sweden. It stands at the N. end of Lake Wener, on the island of Thingvalla, and is connected with the mainland by bridges. It manufs. machinery, matches, and tobacco. It is also an episcopal see. Pop. 17,191.

Karma, *see* TRANSMIGRATION OF SOULS.

Karmathians, Carmathians, or **Qarmathians**, were a Mohammedan sect named after Hamdân Qarmad, a follower of Hosam ul Ahwazi, who was a missionary of Ahmed, son of the Persian Abdallah ibn Maimûn, towards the close of the 9th century. The latter's object had been to undermine Islam and the Arabian power by a secret society with various grades, offering inducements to all classes and creeds. This society led its members on from an interpretation of Islam to a total negation thereof, and submission to the head of the society. There were seven, or later nine, stages of the society. In the first stage the initiate was taught that all mystery of the Koran needed explanation; he took an oath of submission, and paid a sum of money. He was then led on until in the fifth stage he was taught the uselessness of tradition and the temporary nature of Mohammed's precepts, and in the sixth stage was induced to give up prayer, fasting, etc. He was now no longer a Moslem; and in the other stages more freedom of thought was allowed. The Carmathians are last mentioned in 1050, but there is no doubt that at one time they were a powerful sect, for in 900 Abu Sa'id al Jannâbi, the head of a Carmathian

state in Bahrein, routed an army sent against him by Motadid. In Persia and Syria the Carmathians were succeeded by the Assassins (*q.v.*), but it is said that the sect still exists in parts of Syria, Persia, Arabia, and India. For their relation to the Fatimites, *see* FATIMITES.

Karmo, an island of Norway, situated off the W. coast. It is 18 m. in length, and belongs to the prov. of Stavanger. Area 107 sq. m. Pop. 12,000.

Karnal, a tn., cap. of Karnal dist., Punjab, India, 50 m. S.E. of Ambala, is of ancient origin. It is on the old bank of the Jumna, which has changed its course and is now 7 m. away. It was taken by the British in 1805. The chief manufs. are textiles and shoes. Pop. 23,600.

Karnatik, *see* CARNATIC.

Karnthen, *see* CARINTHIA.

Karnul, or **Kurnool**, a tn., cap. of Karnul dist., Madras, British India. 110 m. S.W. of Hyderabad, situated at the junction of the Hindri and Tungabhadra Rivers. It contains an old fort, now completely dismantled. Pop. 24,445.

Karolinenthal, a manufacturing tn. of Bohemia, Austria, and suburb of Prague, adjoining it on the N.E. Pop. 23,000.

Karolyi, Aloys (1825-89), an Austrian diplomat, was a member of an old Hungarian family. After various other appointments he became ambassador at Berlin about 1871, and was present at the Berlin Congress. From 1878-88 he was ambassador in London.

Karolyvaros (Slavonic *Karlove*), a tn. of Hungary, in Croatia-Slavonia, situated 26 m. S.W. by W. of Agram. Pop. 7500.

Karr, Jean Baptiste Alphonse (1808-90), a French novelist, critic, and journalist, born at Paris, and educated at the College Bourbon, where he became a professor. His first work was *Sous les Tilleuls*, published in 1832, of which the originality and charming humour and sentiment brought him fame. [illegible] editor of *Le Figaro* [illegible] year he started *Les* [illegible] publication in a kee[illegible] in 1848 he founded [illegible] removed to Nice in [illegible] of his works testify, [illegible] ture as a hobby, practically founding the Riviera trade in cut flowers; his other hobby was fishing. His works include, in addition to *Sous les Tilleuls*, *Vendredi Soir*, 1835; *Le Chemin le plus Court*, 183[illegible] his autobiograph[illegible] *Un Voyage autour* [illegible] one of his most popular works: *Feu Bressier*, 1848; *Font en Thème*, 1853, a book which had some influence in promoting educational reform, and his reminiscences, published in 1879-80 under the title of *Livre de Bond*. He died at St. Raphael (Var).

Karroo (from Hottentot *karusa*, hard), the name given to the high plateaux in the Cape of Good Hope, S. Africa, lying between the coast mountains and the Orange R. basin. The area is divided into the Little K. and the Great K., the latter is between the Nieuwveld Berge and the Zwarte Berge, and is crossed by the railway. During the dry season it is a sandy waste, but after the rains the soil is covered with luxuriant vegetation, which makes rich pasturage for sheep, goats, ostriches, and cattle.

Kars, a prov. in S.W. Transcaucasia, Russia, on the borders of Asiatic Turkey, has an area of 7300 sq. m. It is watered by the Aras, Kur, and Arpachai Rivers. The surface is [illegible]

Turks and Armenians) 350,000. 2. A tn., cap. of above prov., 115 m. S.W. of Tiflis, and connected with it by rail. It is an almost impregnable fortress. In the 16th century it came into the possession of the Turks and was fortified by Sultan Amurath III. In 1828 it was taken by Russia and restored to Turkey. Several times it was besieged, and finally stormed in 1877. It was ceded to Russia by the Berlin Congress in 1878. It contains an 11th-century cathedral and several mosques, and manufs. carpets and coarse textiles. Pop. 23,000.

Karshi, a tn. in the Khanate of Bokhara, Central Asia, 80 m. S.E. of Bokhara city. It manufs. cutlery, woollen goods, and carpets. Pop. 25,000.

Karst, the name of a region of Austria, composed of high ridges of limestone which join the Eastern Alps to the Dinaric Alps, E. of Istria. A series of parallel fractures borders the North-Eastern Adriatic and continues inland; the N. Adriatic is a [illegible] low which has descended [illegible] fractures. The limestone [illegible] and the water percolates [illegible] and caverns. [illegible] will produce [illegible] h a landscape [illegible]e; it is characterised by a barren aridity in addition to the caves above mentioned. Examples may be seen in Derbyshire and parts of Yorkshire.

Karur, a tn. in the dist. of Coimbatore, Madras, British India, 48 m. [illegible] of Trichinopoli. It is the old [illegible] of the kingdom of Chera, and contains some ancient temples and the ruins of a fort; was several times

besieged and finally ceded to the English in 1801. There are manufactures of brass ware and tanning. Pop. 12,800.

Karwar, a seaport of Bombay, British India, and cap. of N. Kanara district, 54 m. S.E. of Goa. It is the only reliably safe harbour between Bombay and Cochin. In front of the harbour stand the Oyster Rocks, with a lighthouse visible for 25 m. Pop. 17,000.

Karwin, a tn. in Silesia, Austria, 65 m. S.W. of Cracow; has coal mines and breweries. It contains a fine castle. Pop. 16,801.

Karystos, a seaport and com. of Greece, situated near the southern extremity of the island of Eubœa. Pop. 9000.

Kasanlik, or Kezanluk, a tn. of Bulgaria, situated in the province of Eski-Saghra, near Adrianople. It was captured from the Turks in 1878, and is noted for its manuf. of attar of roses. Pop. 11,000.

Kasassin, *see* KASSASSIN.

Kaschau, a tn. on the Hernad, 130 m. N.E. of Budapest, is the capital of the county of Abauj-Torna, Upper Hungary. It is the seat of a Roman Catholic bishop and has a fine 14th century Gothic cathedral. Here the Austrians defeated the Hungarians in 1849. It has celebrated mineral springs. The chief manufs. are gunpowder, paper, sugar, spirits, and tobacco. Pop. 40,200.

Kashan, a tn. in the prov. of Irak-Ajemi, Persia, is 95 m. N.W. of Ispahan. It is on the direct route to Ispahan, and has a thriving trade in brass and copper ware, carpets, silk, and brocades. Pop. 32,000.

Kashgar, an important tn. of Chinese Turkestan in Central [illegible] and is divided into two parts, [illegible] Kuhna Shahr, or Old City, [illegible] Yangi Shahr or New City. [illegible] two cities are five miles dist[illegible] each other, and separated b[illegible] Kizil-su. K. is popular as a [illegible] religious, and commercial centre; it is the seat of Mohammedan culture, and owns the famous shrine of Hazret Afak. The new city was built in 1838. Silk and cotton, boots, shoes, and saddlery form the chief manufs. Pop. (estimated) 50,000.

Kashgar, River, called in some parts the Kizil-su, rises in the Tian-Shan Mts., and flows 500 m. E. to join the Yarkand.

Kashgaria, the name sometimes given to the district generally known as Chinese or Eastern Turkestan, also called Sin-Kiang.

Kashinath Trimbak Telang, (1850-93), an Indian judge and Oriental scholar; vice-chancellor of Bombay University (1892). He was a pupil and intimate friend of Narayan Mahader Purmanand. K. was called to the Indian bar in 1872, and made judge of the High Court in 1889. His services as member of a commission appointed to deal with the educational system of India were rewarded by the decoration of C.I.E. (1882). K. and Metha originated the Bombay Presidency Association. He translated *Bhagwadgita* into English for Max Müller, 1879; published *Was the Râmayana copied from Homer?* (a criticism of Weber's theory), 1873; and other works.

Kashira, a dist. tn. of Russia, in the gov. and 70 m. N.E. of Tula, on the r. b. of the R. Oka. Rye, oats, wheat, barley, and potatoes are grown in the district, and live stock reared. Pop. 6000.

Kashmir, or Cashmere. Properly K. and Jammu is a native state of India, bounded on the N. by the Karakoram Mts., on the E. by Tibet, and on the S. and W. by Punjab and the North-West Provinces. It is politically an important state, guarding the N.W. approach to India, and including part of the Himalayan mountain system to the N. of the Punjab; it also is the principal health resort for Europeans in India. The country is exceedingly hilly save in the plain of K., which is about 120 m. N.W. to S.E., and 76 m. wide; the Nanga Garbat Mt. is 26,656 ft. high. The mountains to the E. of the K. valley [illegible] which flows [illegible] of the valle[illegible] other river of importance. The chief passes to the N. from the valley are those of Kamri (14,000 ft. high), and Burzil (13,500 ft.), which is the pass from Srinagar to Gilgit. The valley is [illegible] S.W. monsoon, and [illegible] with an irregular [illegible] s fertile, the chief [illegible]e, the most important, [illegible] heat, oats, and barley, [illegible] vegetables and fruits. [illegible] and the manufacture of carpets are the chief industries, and gold and silver ornaments, copper ware, and silk embroideries are manufactured; Srinagar (the cap.) is noted for papier-maché work. In early times the inhabitants were snake worshippers (Nagas), but in the time of King Asoko, in 245 B.C., Buddhist missionaries visited the country. As Buddhism decayed Hinduism rose, until, at the time of the Mongol invasion, Mohammedanism was introduced. In 1911 the total population of 3,158,126 was divided up roughly into 2,398,320 Mohammedans, 69,390 Hindus, 35,512 Buddhists, and 31,553 Sikhs. The state is in direct political subordination to the Indian government, which is represented by a

resident; it is divided up into the provinces of Jammu, K., Ladakh, Baltistan, and Gilgit. Area 80,900 sq. m.

Kasimbazar, or Cossimbazar, originally a commercial tn. of India, 20 m. W.N.W. of Murshidabad, now decayed. In 1813, when the R. Bhagirathi changed its course, its final ruin took place.

Kasimov, or Kassimov, *a tn. in the* government of Riazan, Russia, and cap. of the dist. of the same name. It is a manufacturing town. Pop. 14,000.

Kasipur, a tn. of the United Provinces, British India, 75 m. E.N.E. of Meerut. It is said to be the original capital of the Govisana kingdom. Pop. 13,000.

Kaskaskia, a riv. of Illinois, U.S.A. It rises in the eastern-central part of the state, and after a south-westerly course of about 300 m. joins the Mississippi at Chester.

Kasr-el-Kebir, a tn. of Morocco, situated about 58 m. S. of Tangiers. It is the centre of a fruit-growing region. Pop. about 25,000.

Kassaba: 1. A tn. of Asia Minor, about 30 m. E. of Smyrna. It trades in cotton and silk. Pop. 23,000. 2. A tn. of Asia Minor, situated S.S.E. of Konieh. Pop. 15,000.

Kassala, a tn. of Egyptian Sudan, situated on a tributary of the Atbara, about 280 m. S.W. of Suakim. Before the Mahdi's rising it held an important commercial position; it was taken by Italy in 1894 and given back to Egypt three years later. Pop. about 20,000.

Kassan, a tn. in the prov. of Fergana, Russian Turkestan, lying to the N.E. of Kokan. In the vicinity is the cemetery of Sadpir, containing many ancient tombs. Pop. about 10,000.

Kassassin, a canal lock, Egypt, between Ismaila and Zazagig, just over 20 m. W. of Ismaila. It was the scene of the defeat of Arabi Pasha in 1882.

Kassel, the cap. of the prov. of Hesse-Nassau, Prussia, and is situated on the Fulda, about 30 m. S.W. of Göttingen. The town itself consists of the Altstadt, the Oberneustadt, and Hohenzollern, the new quarter. In the Oberneustadt are situated the old Electoral Palace and the Königsplatz, a square noted for its echo. The town contains also a municipal library and a new picture gallery. It was here that Napoleon III. was kept a prisoner after the battle of Sedan. The manufactures of the town include machinery, cars, mathematical instruments, musical instruments, and iron ware. From 1807-13 K. was the capital of Westphalia. Pop. 153,120.

Kastamuni: 1. A vilayet of Turkey-in-Asia, having on its N. the Black Sea Area about 19,500 sq. m. Pop. about 1,000,000. 2. Also called Kastambul, cap. of the vilayet of the same name. It manufactures copper ware. Pop. 17,000.

Kastoria, a tn. of former European Turkey, situated to the S. of Monastir on the small lake of K. Pop. 9000.

Kasur, a tn. of Punjab, British India, 32 m. S. by E. of Lahore. Pop. 22,000.

Katanga, a dist. of Belgian Congo, S E. part of the colony, having an area of 180,000 sq. m. It has copper, gold, iron, and tin mines. Pop. about 1,000,000.

Kater, Henry (1777-1835), an English physicist, born at Bristol; he entered the army in 1794, went to India with his regiment in 1799, and was of much assistance in the trigonometrical survey of India. In 1814 he retired on half-pay and devoted himself to scientific pursuits. His first important contribution to science was his proof of the superiority of the Cassegrainian to the Gregorian telescope; he carried on experiments for determining the length of a second's pendulum, and invented the floating collimator. In 1814 he was decorated with the Order of St. Anne by Russia for his services in verifying the Russian standards of length, and in the same year was made a F.R.S.

Katha, a dist. of Upper Burma, India, having an area of 6994 sq. m. One of its chief rivers is the Irrawadi, and its capital Katha. Gold, copper, iron, and lead are found, and rice, tea, sesamum, and cotton are produced. Pop. 180,000.

Katharine, *see* CATHERINE.

Kathiawar, a peninsula of India, situated on the W. coast between the Gulfs of Cambay and Cutch It really consists of 187 states, some under the British government and some of them tributary to it. Area about 21,000 sq. m. Pop. about 2,328,000.

Kathimein, or Kadhimein, a tn. of Asiatic Turkey, situated about 5 m. N.W. of Bagdad, on the Tigris. Here are two notable tombs and a Persian mosque, the place being a pilgrims' centre. Pop. about 15,000.

Katkoff, Mikhael Nikiforovitch (1818-87), a Russian man of letters and scholar, born at Moscow and educated at the university there, where he became professor of philosophy in 1845. In his sympathies he was at first Liberal, until the excesses of the party alienated him; in 1856 he founded the Russki Viestnik, to advocate reform primarily. In 1863 he became editor of the *Moscow Gazette,* and henceforth had much influence on public opinion. In his

views he was the champion of the Moderate Conservatives, and opposed to German influence. It was in his paper that Tolstoy first wrote.

Katmandu, *see* KHATMANDU.

Kato, Takacki, Baron (*b.* 1860), a Japanese ambassador, created a baron in 1911. He was educated at the University of Tokyo, and in 1888 became private secretary to the Minister for Foreign Affairs. From 1891-94 he was director of the Banking Bureau and of the Taxation Bureau, Finance Department. From this date till 1899 he was envoy-extraordinary and minister-plenipotentiary at the court of St. James; Minister for Foreign Affairs, 1900-1, and again in 1906.

Katrine, Loch, a lake of Scotland, situated in the counties of Stirlingshire and Perthshire, about 5 m. to the E. of Loch Lomond and 9½ m. W. of Callander. It is about 8 m. long, less than a mile wide, and discharges its water through Lochs Achray and Vennachar to R. Teith. It also supplies the town of Glasgow with water. It is situated among some of the most beautiful scenery in Scotland, in the heart of the Trossachs, with Ben Venue and Ben A'an on its bank. The principal scene of Scott's *Lady of the Lake is laid on Ellen's Isle in this loch.*

Kat River, a riv. of Cape of Good Hope. It rises in the Winterberg Mts., and joins the Great Fish R., the stream thus formed being known as the Great Salt R.

Katsura Tara, Prince (*b.* 1847), a Japanese soldier and statesman, born in the province of Choshiu. After seeing service in the Civil War of the Restoration, his military talent was so conspicuous that he was sent in 1870 to study in Germany at his country's expense; from 1875-78 he was military attaché at the Berlin embassy. In 1884 he became vice-minister of war, and served with distinction in the campaign of 1894-95, receiving the title of viscount. After being Minister of War from 1898-1901 he became Premier, an office which he held for four years, a record time in Japan. For his services he was raised to the rank of count in 1902, and marquess in 1905, when King Edward made him a K.C.M.G.

Katta-Kurgan, a tn. of Bokhara, Russian Turkestan, situated in the province and 15 m. W. by rail of Samarkand. Pop. 10,000.

Kattegat, *see* CATTEGAT.

Kattowitz, a tn. in the prov. of Silesia, Prussia, situated 8 m. S.E. of Beuthen. It is engaged in the manuf. of iron and in coal-mining. Pop. 43,170.

Katwijk, a com., seaside resort, and fishing-vil. of S. Holland prov., the Netherlands, 5 m. N.W. of Leyden. It is near the mouth of the Aude Rijn (Old Rhine), and has stone dykes. Pop. 10,417.

Katyayana. The most celebrated man of this name was a Sanskrit grammarian of the Deccan (*fl. c.* 3rd century B.C.), author of *Vārtikkās* (supplementary rules to, or perhaps a criticism of, Pānini's *Grammar*, treating of about one-third of his aphorisms), and of other works. These in turn were collected and commented on by Patanjali. *See* Weber, *White Yajur-Veda*, 1859; Macdonell, *Sanskrit Literature*, 1900.

Katzbach, a river of Prussian Silesia, flowing N.E. past Liegnitz into the R. Oder at Parchwitz, 29 m. from Breslau. The Prussians, under Blücher, defeated the French, under Macdonald, on its banks in 1813.

Kaub, *see* CAUB.

Kaufbeuren, a tn. of Bavaria, Germany, Swabia gov., 35 m. S.W. of Augsburg. There are two mediæval churches and a town hall (Renaissance style). It manufs. textiles, yarn, and machinery, and has a large lithographic establishment. Pop. 8948.

Kauffmann, Angelica (1741-1807), an artist and royal academician, born at Chur in the Grisons. She was taught by her father, a somewhat mediocre painter, and at the early age of eleven was painting portraits of Italian notabilities. She visited Milan, Rome, Bologna, and Venice, and appeared in London in 1766, one of her first works being a portrait of Garrick. She was befriended by Sir Joshua Reynolds, and soon became famous as a painter of classic and mythological pictures and portraits. She painted many pictures, represented in the principal galleries of London and the Continent, but is best known by her engravings from designs by Bartolozzi and others. See *Life* by Giovanni de Rossi, 1810.

Kaufmann, Constantine (1818-82), a Russian general, born near Ivangorod. He distinguished himself at Kars in 1855 and was appointed military governor of Turkestan in 1867, occupying Samarkand the following year. In 1873 he commanded the expedition against Khiva, and two years later conquered Khokand. He died at Tashkend.

Kaufmann Peak, the highest peak in the Trans-Alai Mts., Central Asia, on the Pamirs. It is about 23,000 ft. high, one of the loftiest summits of the Tian-Shan system, named after the Russian general, Constantine von Kaufmann (1818-82).

Kaulbach, Wilhelm von (1805-74), a German painter, born at Arolsen in

Waldeck. He was a pupil of Cornelius at the Düsseldorf Academy, and followed his master to Munich in 1825, and succeeded him as director of the academy there in 1849, an office which he continued to hold till his death. K. matured the practice of
oration,
ppeared
Schiller,
Fuchs.
He also showed creative imagination in the 'Destruction of Jerusalem,' and the 'Battle of the Huns.' His ultimate work was a vast canvas, over 30 ft. long, entitled the 'Sea-Fight at Salamis,' painted at Munich. See *Life* by H. Müller, 1892.

Kaunitz, Wenzel Anton, Prince von (1711-94), an Austrian statesman and diplomatist, born at Vienna. He was trained for the law at Vienna, Leipzig, and Leyden. From 1742-44 he was minister at Turin. In 1748 he distinguished himself at the congress of Aix-la-Chapelle and was Austrian ambassador at the French court from 1750-52, forming an alliance between France and Austria From 1753-92 he was state-chancellor and chief minister, and in 1756 formed the coalition against Frederick the Great. He took an active part in ecclesiastical reforms and was a patron of arts and sciences. See *Life* by Beer, 1872.

Kavanagh, Arthur Macmorrough (1831-89), an Irish politician, born in Ireland of a family which traced its descent from the kings of Ulster. Between 1846 and 1853 he travelled much in Egypt, Persia, India, etc. He was M.P. for co. Wexford from 1866-68, for co. Carlow from 1868-80, and was made a member of the Privy Council of Ireland in 1886.

Kavanagh, Julia (182-477), a British novelist, born at Thurles, co. Tipperary. Spent several years of her life in Normandy and Paris, and began her literary career in London in 1844, the first work to attract notice being *Madeleine, a Tale of Auvergne*. She also wrote *Nathalie; French Women of Letters; English Women of Letters; A Winter in the Two Sicilies*, etc.

Kaveri, River, *see* CAUVERY.

Kavirondo, a region of Uganda Protectorate in British E. Africa, N.E. of Lake Victoria Nyanza. Two distinct races dwell there—Bantu and Negro tribes. The district is mostly fertile and well watered. See *Uganda* by Johnston (1902), Cunningham (1905).

Kawagoe, a tn. of Japan in Hondo, situated in the province of Musashi, and 24 m. N.W. of Tokio. Pop. *16,000*.

Kawardha, a feudatory state and tn. of Central Provinces, British India, Bilaspur district. Area 800 sq. m. Pop. 57,000.

Kawau, an island of New Zealand, situated in the Gulf of Hauraki, 30 m. N. of Auckland. Its circumference is 20 m., and it is a favourite resort for yachting and picnic parties.

Kay (or Ke, Kei, Queux, etc.), Sir, in Arthurian legend, the foster-brother of Arthur, who made him his seneschal. Surnamed 'The Rude' and 'The Boastful,' he is represented as treacherous and malicious, and bitter and sarcastic in speech. He figures in the *Brut, Perceval li Gallois, Golagnos and Gawayne* (pamphlet printed in 1508 by Chepman and Myllar), and *Gawain and Kay* (in the Dutch *Lancelot*). *See* Malory's *Morte d'Arthur*, 1485.

Kay, John, or Kay of Bury (*fl.* 1733-64), an English inventor, by 1730 a reed-maker for looms. In 1733 he took out a patent for his fly-shuttle, by which arrangement only one hand was required to throw the shuttle backwards and forwards. He also invented the extended lathe, and a card-making engine. *See* Woodcroft, *Brief Biography of Inventors*, 1863; Guest, *History of the Cotton Manufacture*, 1823; Barlow, *History of Weaving*, 1878.

Kay, John (1742-1826), a Scottish caricaturist, a member of the Society of Surgeon-Barbers (1771). In 1785 he opened a print-shop in Parliament Close, Edinburgh, and produced miniatures and sketches of local celebrities. These are chiefly of antiquarian interest, as a record of the social life of his times. *See* Collection of his portraits by Paton, 1838, 1842, 1877; Anderson, *Scottish Nation*, 1875; Redgrave, *Dictionary of Artists*, 1878.

Kayak, or Kajac, an Eskimo term for a fishing-boat, common to all dialects from Greenland to Alaska, strictly only for that used by a man, the woman's being an 'umiak.' It is a long, narrow, decked canoe, the light wood framework being covered with sealskin, and weighs about 60 lbs

Kaye, John (1783-1853), Bishop of Lincoln, born in *Hammersmith*. He studied at Christ's College, Cambridge, where in 1816, after occupying the position of vice-chancellor, he was made regius professor of divinity. In 1820 he was consecrated Bishop of Bristol, and seven years later was translated to Lincoln. He published an important *Ecclesiastical History of the Second and Third Centuries*, etc. and many works on the Fathers of the Church.

Kaye, Sir John William (1814-76), an English soldier and historian, retired from the army in 1841. In 1856 he entered the East India Company's

service, and succeeded J. S. Mill as secretary in the Political and Secret Dept. of the India office (1857-74). K. founded the *Calcutta Review* (1844) and wrote *History of the War in Afghanistan*, 1851-53; *History of the Administration of the East India Company*, 1853.

Kayes, or Khayes, a French station in W. Africa, on the Senegal, which is navigable to this point during time of flood (May to November), 7 m. from Medina. It has good fortifications. A railway (constructed in 1890) connects it with St. Louis, and there is communication also towards the Niger with Befulabé and Koulikoro. Pop. about 10,000.

Kay-Shuttleworth, Sir James Phillips (1804-77), an English politician and educationalist, born at Rochdale, Lancashire. In 1824 he became a medical student at Edinburgh University, and then gained experience by working among the poor in the Lancashire factory districts, which led to his appointment in 1835 as poor-law commissioner in Norfolk and Suffolk, and later in the Lancashire factory districts. In 1839 he was nominated First Secretary to the Committee of the Privy Council on Education, and was instrumental in establishing a system of government school inspection. He founded the first training college for school-teachers at Battersea (1839-40) in conjunction with E. Carleton Tufnell. He was created a baronet in 1849, on his retirement from public life. He wrote numerous papers on education, and his *Physiology, Pathology, and Treatment of Asphyxia*, became a standard text-book.

Kazala, or Kazalinsk, a tn. in the Russian prov. of Syr-daria, Western Turkestan, on the Syr-daria R. which floods the town in spring, in 45° 45′ N. and 62° 7′ E. It is situated at the junction of the principal trade routes of Central Asia, and carries on an active trade with the surrounding district.

Kazan: 1. A gov. of European Russia, having an area of about 24,600 sq. m. The principal rivers are the Volga and the Kama, a large amount of the surface being covered by forests. The chief occupation of the people is agriculture. This government was annexed to Russia in 1552. Pop. 2,711,000. 2. The cap. of the gov. of the same name, lying about 200 E. of Nijni-Novgorod. The kremlin, or citadel, contains a cathedral in which is an image of the Virgin famous [illegible] Russia. The universit[illegible] founded in 1804, has a [illegible] of students. The chief [illegible] leather tanning, and the manuf. of soap, iron, steel, and cloth. There are also shipbuilding yards in the vicinity. K. itself is an important trading centre between parts of Asia and Europe. Pop. 179,201.

Kazanskaya, a Cossack vil. of N. Caucasia, situated 92 m. N.N.W. of Stavropol, on the Kuban R. Pop. 7000.

Kazbek, or Casbeck, a peak of the Caucasus, third highest in the range (16,546 ft.). The Devdorak glacier gives rise to huge avalanches, which sometimes stay the course of the Terek.

Kazinczy, Ferency (1759-1831), a Hungarian man of letters, born at Er-Semlye in co. Bihar, and studied law at Kassa and Epries. He started the first Magyar literary magazine in 1788. Becoming implicated in a conspiracy of the Abbot Martinovics, he was sentenced to death in 1794, but the sentence was commuted to imprisonment. On his release in 1801 he retired to Szephalom, where he died. His influence on the revival of Hungarian literature was very great.

Keady, a linen-manufacturing vil. in co. Armagh, Ulster, Ireland. Pop. 5500.

Kealakekua, a bay in Hawaii, one of the Sandwich Is. It was here that their discoverer, Captain Cook, was murdered in 1779.

Kean, Charles John (1811?-68), an actor, the second son of Edmund K., appeared at the age of sixteen as Young Norval in Home's *Douglas* at Drury Lane. The favourable impression he made secured him an engagement at the Haymarket, where he was successful as Hamlet. Among his other triumphs were Richard III., Sir Giles Overreach, and Louis XI. Many of the parts he created were, however, subsequently better played by Sir Henry Irving. He went more than once to the United States, where he was heartily welcomed, and where he made much money. He married, in 1842, Ellen Tree. There is a biography by J. W. Cole, 1859.

Kean, Edmund (1787-1833), an actor, went on the stage as a child, and at the age of fourteen played Prince Arthur in *King John*, with Kemble and Mrs. Siddons. In 1814 he won his spurs at Drury Lane with a magnificent performance of Shylock, and the reputation he then acquired was vastly increased by his Richard III and Hamlet. He had his failures, but in the annals of the English stage he was unrivalled in tragic rôles. Owing to drunkenness [illegible] extravagance, he fell on [illegible] his last years. There are [illegible] by Barry Cornwall, 1835, [illegible] Jawkins, 1869.

Kean, Ellen (1805-80), an actress, achieved success on the stage at an early age, under her maiden name, Ellen Tree, making her début at Covent Garden in 1823, and it was at this theatre about eight years later that she played Romeo to the Juliet of Fanny Kemble. In 1842 she married Charles Kean, after whose death, in 1868, she retired into private life.

Keane, Augustus Henry (1833-1912), an ethnologist and writer on geography, was a student in Jersey, Italy, Dublin, and Hanover. His life, apart from travels in Europe and N. America, was engrossed in literary labours, which were recognised by the vice-presidency of the Anthropological Institute, and more substantially by a small civil pension in 1897. He was the author of Stanford's *Asia, Africa,* and *Central and South America,* whilst *Ethnology* and *The World's Peoples* are two of his studies in anthropology.

Keane, John, first **Lord Keane** (1781-1844), an English general, entered the army at the age of twelve. In 1799 he became captain, and served several years in the Mediterranean, and also in Spain under Wellington, being made a colonel in 1812, major-general in 1814, and general in 1815. From 1823-30 he was commander of the forces in Jamaica. In 1839 he performed his most famous exploit, the capture of Ghazin, for which he was raised to the peerage. He was not so much a great as a fortunate soldier.

Kearney, a manufacturing tn., and the cap. of Buffalo co. in Nebraska, U.S.A. Pop. (1910) 6202.

Kearny, a manufacturing tn. in Hudson co., New Jersey, U.S.A. Bridges spanning the Passaic connect it with Newark. Pop. (1910) 18,659.

Kearsley, or **Kersley,** a tn. with coal mines and paper mills, 4½ m. S.E. of Great Bolton in Lancashire, England. Pop. (1911) 9676.

Keats, John (1795-1821), a poet, was intended to be a surgeon, and in 1816 was a dresser at Guy's Hospital, but soon after he abandoned any intention of pursuing this profession. He made the acquaintance of Leigh Hunt, and began to publish verse in the latter's paper, *The Examiner.* Shelley, who greatly admired him, assisted him to bring out in 1817 a volume of *Poems,* which attracted no attention among the general public. Undismayed by failure, K. began to write *Endymion,* which appeared in 1818, but did not at once win that chorus of praise with which it has since been rewarded. Indeed, K. was bitterly attacked by Lockhart in *Blackwood's,* and Croker in the *Quarterly,* but after the first shock, confidence returned, and he was to say, 'I think I shall be among the English poets after my death,' than which no self-criticism was ever more true. His other works include *Hyperion,* 1818; *The Eve of St. Agnes,* 1819; *I* [illegible] 819; and *Le* [illegible] one of the [illegible] ; deserving of very high praise for his imagination, tenderness, and lyrica gifts. His odes are not excelled by any writer. It is probable that but for his early death, he would have attained to an even greater place in literature. There is a biography by Lord Houghton (1848).

Keble, John (1792-1866), an English divine, won a first-class honours, when, in 1811, he graduated from Corpus Christi College, Oxford, Fellow and tutor of Oriel from 1811-23, he was professor of poetry in Oxford from 1831-41, and finally in 1836 settled down in the country vicarage of Hursley, Hampshire, where he stayed till his death. In disposition K. was shy and unassuming, and, considering his talents, strangely unambitious. His friends have left generous tributes to his winning personality, his unsparing devotion to his duties as parish priest, and his unselfish care of a sick father. A Tory and cavalier in politics, he was, according to Newman, the 'true and primary author' of the Oxford movement in the English Church. It grew out of his famous sermon on 'National Apostasy,' 1833, the High Church sympathies of which re-appear in *his contributions to the celebrated Tracts for the Times* in his standard edition of Hooker's works (1836), and in all his sermons and poems. He is popularly known for his book of poems, *The Christian Year,* 1827.

Keble College, Oxford, a modern college, opened in 1869, and erected in memory of John Keble, the poet.

Kecskemet, a leather and soap manufacturing tn., 65 m. S.S.E. of Budapest, Hungary. Pop. (1910) 66,834.

Kedah, a state on the W. of Malay Peninsula. Rice is widely cultivated, and there are rice mills at Alor Star, the capital, and Kuala Muda. The area is about 4000 sq. m. Pop. about 220,000.

Kedarnath, a city in the Garhwal dist. of the N.W. provinces of British India. Its celebrated temple draws many pilgrims.

Kedron, *see* KIDRON.

Keeler, James Edward (1857-1900), an American astronomer, born at La Salle, Illinois. In 1890, when he was working in the Lick Observatory, [illegible] years later, when he was director of

the Alleghany Observatory, he verified by spectroscopic investigations the theory already advanced that Saturn's rings consisted of 'discrete particles of unknown minuteness.'

Keeley, Mary Ann (1805 or 1806-99), an English actress, left a lasting impression on all who saw her spirited impersonation of Jack Sheppard in a play founded on Ainsworth's novel of that name. The hero, however, was a criminal, and the performance of the piece was accordingly forbidden. In 1829 she married the comedian, Robert Keeley (1793-1869) and appeared with him at the Olympic with Charles Mathews, at Drury Lane with Macready, and with Kean at the Haymarket. Two of her finest rôles were Nerissa in *The Last Days of Pompeii*, and Smike in *Nicholas Nickleby*.

Keeley, Robert (1793-1869), an actor, appeared at the Olympic, Adelphi, Drury Lane, Lyceum, and Covent Garden, and acted with Charles Kemble, Macready, and Kean. Essentially a comedian, K. was excellent as the rustic boor or slow-witted dupe. His best rôles were Rumfit in Peake's *Duel*, Diego in *The Spanish Curate*, and Leporello in *Don Giovanni*.

Keelhauling (Dutch *Kielhaalen*, to careen a ship), means to haul under the keel of a ship, and was for long a notorious form of punishment inflicted for various offences in almost all navies, and on merchantmen. The offender was suspended by a rope from a yard-arm with weights on his legs, while another rope was fastened to him and carried under the ship's keel to the opposite yard-arm. He was then dropped into the water, dragged under the ship's bottom, and drawn up again on the other side. Graphic descriptions of this barbarous practice are to be found in Marryat's novel, *Snarleyyow*.

Keeling or Cocos Islands, a group of twenty-three small inhabited coral islands in the Indian Ocean, between 12° 4′ and 12° 13′ S. and 96° 49′ to 57′ E. Discovered by Captain Keeling in 1609, they entered the British protectorate in 1856, and since 1882 have been annexed to the Straits Settlements. They abound in cocoa-nut palms, and enjoy an equable, invigorating climate. Pop. 650.

Keene, a city on the Ashuelot R., 44 m. S.W. of Concord, and the county-seat of Cheshire co., New Hampshire, U.S.A. K., which is situated on a level expanse guarded by high hills, manufactures boots and shoes, chairs, pottery, etc. Pop. (1910) 10,068.

Keene, Charles Samuel (1823-91), an artist, at the age of nineteen was apprenticed to a firm of wood-engravers. He soon began to indulge his artistic tastes, and illustrated *Robinson Crusoe* and other works. After contributing to the *Illustrated London News*, his drawings began to appear in *Punch*, the staff of which he presently joined. As a humorist he was delightful, and as a black-and-white artist he had no rival for technical skill in his day. There is a biography by G. S. Layard, 1892.

Keep, *see* CASTLE.

Keeper of the Great Seal, the officer of state who holds the Great Seal, *i.e.* the Lord High Chancellor (*q.v.*), formerly called the Lord Keeper. The delivery of the Great Seal into the hands of the Chancellor confers the chancellorship upon him. Since the union with Scotland (1707) there has been only one Great Seal for the United Kingdom. The Great Seal is used for sealing public documents of great importance, *e.g.* treaties, writs to summon a parliament, the Clerk of the Crown in Chancery being the official who actually passes the documents under it. The use of the Great Seal has been largely superseded by that of wafer great seals made on wax or embossed paper. But treaties with foreign powers are still ratified by Letters Patent under the Great Seal. On a demise of the crown, when a new Great Seal must be made, the old seal belongs to the chancellor, though it is first theoretically broken or 'damasked' by a light blow with a hammer. *See* Campbell's *Lives of the Chancellors*.

Keewatin (North-wind), a former district of North-Western Canada, now absorbed in the provs. of Manitoba and Ontario.

Keffi, a tn. of N. Nigeria, Central Africa, situated 110 m. N.E. of the junction of the rivers Niger and Benue. Pop. 80,000.

Kehl, a manufacturing city opposite Strassburg, on the Rhine, in the circle of Offenburg of the grand-duchy of Baden, Germany. Pop. 8860.

Kei, or Great Kei, a S. African riv. which borders the Cape of Good Hope on the E. After the confluence of the Black and White K., it flows S.E. to the Indian Ocean.

Keighley, a woollen manufacturing town, near the confluence of the Worth and Aire, 8¼ m. N.W. of Bradford, in the West Riding of Yorkshire, England. Canals connect it with Liverpool and Hull. Pop. (1911) 43,490.

Keightley, Thomas (1789-1872), an Irish author, attended Trinity College, Dublin, but took no degree. He cherished, it seems, an exaggerated idea of his own literary merits, but the fact that he was a good linguist won sincere appreciation of his his-

torical compilations, and excelled, moreover, in that *sine qua non* of the journalist, namely versatility, proves him to have been a man of no mean talent. His *Fairy Mythology* appeared in 1828, and he published accounts of the Greek War of Independence (1830) and the Crusaders (1834). From 1837-47 he was chiefly engaged in writing histories of England, Greece, the Roman republic and empire, and India. These were followed by critical editions of Virgil and Sallust, Milton and Shakespeare.

Kei (or Ke) Islands, a group in the Dutch E. Indies, lying between 5° to 6° 6′ S. and 131° 50′ to 133° E. They comprise Great Kei and Little Kei (which is volcanic), and smaller islands. Cocoa-nuts abound, and sago, maize, tobacco, etc., are profitably cultivated. Polynesians, Papuans, and Malays make up a population of 23,000.

Keil, Karl Friedrich (1807-88), a German biblical critic, born at Oelsnitz in Saxony, and lived at Dorpat for over twenty years. Here he was appointed privat-docent in 1833, and five years later rose to professor. One of his earlier works was *Biblische Archäologie*, 1859. A series of commentaries on the Synoptic Gospels, the Epistle to the Hebrews, and the Epistles of Jude and Peter reveals him as a thoughtful exegete, whilst his *Einleitung* to the O.T. has made a definite appeal to a large body of students and scholars.

Keill, John (1671-1721), mathematician and . . graduated as M.A. from University of Edinburgh. esteemed *Introductio ad Veram Physicam* (1701) was a course of lectures which he delivered at Oxford. He also published text-books on geometry and trigonometry. His *Introductio ad veram Astronomiam* (1718) was again a series of Oxford lectures. In 1712 he had proudly accepted the Savilian chair of astronomy. Leibnitz, who claimed to have invented Newton's fluxional calculus, was successfully attacked in a controversy by K., who came forward as Newton's champion.

Keim, Karl Theodor (1825-78), a German Protestant theologian, attended lectures at the universities of Tübingen and Bonn, and from 1859-73 held the chair of theology at Zürich. His most ambitious work . . . *von Nazara in* . . . *im Gesamtleben* . . . , 1867-72.

Keiser, Reinhard (1673-1739), a composer of church music and the chief figure in the early development of opera in Germany. He left over 100 operas, of which the chief were *Adonis* (1697), *Cæsar* (1703), and *Crœsus* (1710), most of them being produced at Hamburg, where most of his life was passed. In some ways K. is the precursor of Handel.

Keith, an agricultural centre of Banffshire, Scotland. It is situated 45 m. N.W. of Aberdeen by rail. Pop. (1911) 4499.

Keith, George Elphinstone Keith, Viscount (1746-1823), an admiral, distinguished himself as commander of the *Perseus* under Lord Howe in the siege of Charleston (1780), and again under Lord Hood during the siege of Toulon (1793). In 1796 he wrested from the Dutch their settlement in the Cape of Good Hope, and obliged a detachment of their fleet to surrender in Saldanha Bay. The following year he assisted in the suppression of the mutiny at Sheerness, and in 1799, as commander in Spanish waters, effected a skilful landing at Aboukir.

Keith, James Francis Edward, known as Marshal Keith (1696-1758), a field-marshal under Frederick the Great, took part in the Jacobite Rebellion of 1715, and on its collapse escaped to Brittany. This adventure decided his career as a soldier of fortune. At first he served Spain, but finding his Protestantism barred the way to promotion transferred to the ranks of the tsar (1728), but not before he had risked his life in Alberoni's attempt to restore the Stuarts. In the war with the Turks (1736 - 37) he displayed signal . . . the storming of Otcha- . . . r gained equal distinc- . . redish War of 1741-43. jealousy of a foreigner hindered preferment. Accordingly, he escaped from the Russian empire, entered the Prussian army, fought at Losowitz and Rossbach, conducted the unsuccessful siege of Olmütz, and finally died on the battlefield of Hochkirchen. In soldierly virtues he excelled all 'Scots abroad.'

Keith, Sir Robert Murray, K.B. (1730-95), a British diplomat, was descended through his father, Robert K., also in the diplomatic service, from a younger son, the second earl marischal of the K. family. He entered the army, and became colonel of the 87th Foot, known as Keith's Highlanders. When the regiment was disbanded in 1763, he entered the diplomatic service, in which his intrepidity and linguistic abilities won him success. He was made lieutenant-general in 1781 and privy councillor in 1789.

Keith-Falconer, Ion Grant Neville (1856-87), an Arabic scholar, graduated from Trinity College, Cambridge, in 1878, and afterwards won a first class in the Semitic language tripos.

President of the London Bicycle Club (1877-86), he rode in thirteen days (less 45 minutes) from Land's End to John-o'-Groats (994 m.). Orientalists are warm in praise of his translation of the Syriac version of *Fables of Bidpai*, 1885. He died prematurely of a fever whilst founding a mission station near Aden.

Kekulé, Friedrich August (1829-96), a German chemist, was persuaded by Liebig to take up chemistry, and after studying in Giessen and conversing with leading chemists in Paris and England, accepted a professorship of his science at Ghent (1858) and later at Bonn University (1865). Besides editing *Annalen der Chemie*, he published *Lehrbuch der organischen Chemie*. His 'closed-chain' theory of benzene has given a remarkable stimulus to the preparation of aniline dyes, whilst his doctrine of atomic affinities has become an integral part of chemical theory.

Kelat, *see* KHELAT.

Kelland, Philip (1808-79), an English mathematician, graduated from Queens' College, Cambridge, and in 1834 was senior wrangler. From 1838-79 he held the chair of mathematics at Edinburgh University, and proved himself a born teacher. His publications include: *How to Improve the Scottish Universities*, 1855 (a subject in which he was deeply interested), and the article on 'Algebra' in the 9th ed. of the *Encyclopædia Britannica*.

Kellaways Rock, the geological name for alternate layers of highly-fossilised sands and clays among which irregular calcareous sandstones are freely interspersed. The name is derived from a Wiltshire village.

Keller, Gottfried (1819-90), a German poet and writer of fiction, was the son of a master joiner of Zürich. For two years he studied art in Munich, but early discovered that literature was his vocation. For five years he lived in Berlin (1850-55), and from 1861-76 acted as secretary to his native canton. His volume of poetry, *Gedichte* (1846), emphasises his high creative faculty, whilst the writing of *Der grüne Heinrich*, his finest novel (1851-53), implies an imaginative temperament readily responsive to beauty and the nobler emotions. K. was peculiarly felicitous in his handling of the short story, and his sketches of Swiss provincial life entitled *Die Leute von Seldwyla* (1856, a second series of which appeared in 1874) have become classics. In this volume are *Die drei gerechten Kammmacher* and *Romeo und Julia auf dem Dorfe*, the first of which shows the richness of his humorous vein, whilst the impression left by the tragic intensity of the latter does not soon pass away.

Kellermann, François Christophe de (1735-1820), Duke of Valmy and Marshal of France, was a Republican throughout the Great Revolution. His brilliant victory of Valmy (1792) delivered the infant republic from the dread of Prussian domination, and, in the words of Goethe, 'opened a new era in the world's history.' Under Napoleon he was given the command of the reserves. Latterly he sat in the Chamber of Peers.

Kellgren Johan Henrik (1751-95), a Swedish poet, studied at the University of Åbo, was joint-editor and editor served secretar against mastery over satire and his deficiency in humour. But these will soon be forgotten, whilst such charming songs as *Nya skapelsen* and the many lyrics scattered up and down his four librettos will ensure a long immortality.

Kells, a market tn., 38 m. N.W. of Dublin, connected by rail with Dublin and Drogheda, in co. Meath, Ireland. Its interest is antiquarian. In the churchyard stands an ancient round tower (99 *ft.*), and in the market-place a carved stone cross. The stone-roofed cell of St. Columba, who dwelt here in the 6th century, is still shown. Pop. (1911) 2400.

Kelly, Hugh (1739-77), a playwright, born in Killarney, Ireland. He came to London and lived for a time in great privation, but ultimately procured a remunerative position in an attorney's office. From about 1762 he wrote essays, poetry, criticisms, and on politics. His play *Thespsis* attracted Garrick, and *False Delicacy*, a comedy, was produced under his auspices. *A Word to the Wise* was a failure—in Dr. Johnson's words, 'fell a sacrifice to popular fury, and, in playhouse phrase, was damned'—owing to a demonstration by John Wilkes and his supporters. K. published besides: *Clementina*, a tragedy; *The School for Wives; Romance of an Hour;* and *The Man of Reason*.

Kelly, John (1750-1809), a clergyman and distinguished student of the Manx language; born in Douglas, Isle of Man. Bishop Hildesley deputed him to assist in translating the Bible and the Prayer Book into Manx. The first portion of the translated Bible was printed in Whitehaven in 1770, the second was nearly lost in shipwreck, K. himself saving it, and the whole was issued in 1772. He published a Manx grammar (1803); his

Manx dictionary was totally destroyed by fire while being printed in 1808.

Kelly, Michael (*c.* 1764-1826), an actor and musician, after appearing at Dublin, studied abroad, and sang tenor parts in many operas at Florence and Vienna, and, later, at Drury Lane. He was manager of the King's Theatre, London, from 1793, and he wrote the musical settings for many plays, including Sheridan's *Pizarro*. He was the author of many songs, the best-known of which are *Flora MacDonald* and *The Woodpecker*. His *Reminiscences*, composed from his own materials, were written by Theodore Hook (1826), and are very interesting.

Kelman, Rev. John, D.D. (*b.* 1864), a Scottish Presbyterian minister, educated at Edinburgh, with a break of three years' travel and work in Australia. He was assistant to Prof. Smith in Aberdeen (1890), minister of Peterculter, Aberdeenshire (1891), and of New North Church (United Free [illegible] (1897-1907) much interc[illegible] Edinburgh [illegible]. has been [illegible] and junior minister of St. George's United Free Church, Edinburgh. His publications include: *The Holy Land*; *The Faith of R. L. Stevenson*, 1903; *Honour towards God*; *The Road, a study of Bunyan's 'Pilgrim's Progress.'*

Kelp, the product of the combustion of seaweeds, that of most value being obtained from drift-weed, such as *Fucus vesiculosus*, *F. serratus*, *Laminaria digitata*, and *L. stenophylla*. These are dried in the sun and burnt in shallow pits, one ton of K. being obtained from about 20 tons of seaweed. The product, which consists of hard, dark-greyish masses, consists chiefly of potassium sulphate, 14 per cent.; potassium chloride, 17 per cent.; sodium chloride, 14 per cent.; sodium carbonate, 4 per cent.; and smaller quantities of potassium iodide and other salts.

Kelpie (' tangie ' or ' shelly-coat '), in Scottish mythology, a kind of water-sprite or river genius, usually with the appearance of a shaggy horse (sometimes of a man), supposed to appear as a warning to those destined shortly to be drowned near that spot. *See* Jamieson's *Dict.*, 1808; Scott's *Heart of Midlothian*, iv.

Kelsey Beds, a formation of gravel, marine shells, mammoth remains, etc., at Kelsey Hill, near Hedon, and all round Hull in Yorkshire. It dates from the Pleistocene Age, and was probably deposited in the sea near a river estuary.

Kelso, a market tn. in Roxburghshire, Scotland, 42 m. S.E. of Edinburgh. The Tweed here joins the Teviot, crossed by a handsome five-arch bridge 165 yds. long. Its manufs. are chiefly agricultural manures and implements. Sir Walter Scott was a pupil at the Old Grammar School in 1783. Pop. (1911) 3982.

Kelt, *see* SALMON.

Kelts, *see* CELTS.

Kelty, a tn. of Scotland in Fifeshire and Kinross-shire, 6 m. N.E. of Dunfermline, with coal mines. Pop. (1911) 3997.

Kelung, a seaport in the island of Formosa, Japan. It is the centre of a large coal-mining district, coal being its principal export. Pop. about 10,000.

Kelvin, William Thomson, Lord, first Baron Kelvin of Largs (1824-1907), a British scientist, educated at Glasgow, Cambridge, and Paris. After a distinguished college career he became professor of natural philosophy at Glasgow University (1846-99). He edited various mathematical journals, contributing to them the results of his researches in physical phenomena, [illegible] mission of electrical currents, and was electrical engineer for various ocean telegraphs, beginning with the Atlantic cable (1857), and ending with [illegible]9). [illegible] in [illegible] a new form of mariners' compass (1873-[illegible] was given the title of Lord Kelvin in 1892. His various papers have appeared in book form as *Electrostatics and Magnetism*, 1884; *Mathematical and Physical Papers*, 1882-84; *Popular Lectures and Addresses*; *Baltimore Lectures* . . ., 1904. With Tait he wrote *A Treatise on Natural Philosophy*, 1879-83. See *Life* by Fitzgerald (1899), Munro (1902), Gray (1908), Russell (1912), S. P. Thompson (1910); Bright's *Story of the Atlantic Cable*, 1903; Larmor's 'Lord Kelvin,' *Proc. Roy. Soc.*, 1908; *Camb. Math. Journ.*, iii. 1842.

Kemach, Kemakh, or Gamakh, a vil. of Asiatic Turkey, on the Upper Euphrates. Pop. 14,000.

Kemble, Charles (1775-1854), an actor, made his first appearance at Drury Lane in 1794, and quickly rose to an important position in his profession. He played leading parts in London for many years, and in 1822 became manager of Covent Garden. His farewell performance in 1836 was as Benedick at the Haymarket.

Although he played the principal tragic rôles his successes were made in comedy.

Kemble, Frances Anne, afterwards Mrs. Butler (1809-93), an actress, was the daughter of Charles K. At the age of twenty she appeared as Juliet at Drury Lane under her father's management, and at once achieved a great success. Nor was her subsequent career on the stage less satisfactory, and both in England and America she became very popular, and remained so until her retirement in 1849. She wrote several plays and poems, and *Notes on some of Shakespeare's Plays*, 1882; and published the very interesting autobiographical *Record of a Girlhood*, 1878; *Records of Later Life*, 1882; and *Further Records*, 1891. She was a very charming person, and very much beloved by men of letters, who corresponded with her regularly. Especially was she a favourite of Edward Fitzgerald, whose letters to her have been published.

Kemble, John Mitchell (1807-57), an historian, was educated at Cambridge, where he was one of the set known as 'The Apostles.' He studied philology in Germany under Grimm, and on his return was recognised as an authority on Anglo-Saxon. He was a many-sided man. In 1833 he edited the poems of Beowulf; from 1835-44 presided over the destinies of the *British and Foreign Review*, and was Examiner of Plays from 1840. His principal works were *Codex Diplomaticus ævi Saxonici*, 1839-48, and *The* [illegible]

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to take holy orders, and in 1776 abandoned all idea of so doing. In that year he played Theodosius in Lee's tragedy of that name at Wolverhampton, and he remained in the provinces until the autumn of 1783, when he made his bow to the public at Drury Lane as Hamlet—a performance that aroused much controversy. For nineteen years he remained at Drury Lane, and during that period played most of the great Shakesperian rôles. There is a biography by Boaden (1825).

Kemble, Maria Theresa (1774-1838), an actress, came to England from Vienna about 1786, and acted at Drury Lane under her maiden name of Du Camp. She made a popular success six years later as Macheath in *The Beggar's Opera*, and thereafter played leading parts, including Portia and Desdemona. She married Charles K. in 1806. She continued to act after marriage until 1819, when she retired. In 1808 she played in her own comedy, *The Day after the Wedding*, at Covent Garden on the occasion of her husband's benefit.

Kempen: 1. A tn. in the Rhine prov. of Prussia. It manufs. textile fabrics, and is remembered as the birthplace of Thomas à Kempis. Pop. 7375. 2. A tn. in Posen, Prussia, engaged in the manufacture of tobacco. Pop. 6396.

Kempenfelt, Richard (*c.* 1720-82), an English rear-admiral, served with distinction in the W. Indies and under Pocock in India (1758-59). When Lord Howe was commander of the fleet (1782) K. served under him, and went down with the *Royal George* at Spithead. Howe improved and adopted his system of signalling. He wrote religious poetry, including the lyric *Bursl, ye Emerald Gates.*

Kempis, Thomas à (*c.* 1379-1471), an Augustinian canon and religious writer, called after his birthplace Kempen, near Düsseldorf. His surname was Hammerken, and he came of a peasant family. At ten he was sent to a school at Deventer, where the influence was strongly religious, and having been convicted of sin in a vision, he decided to enter a holy order. In 1399 he was admitted into the Augustinian convent of Mount St. Agnes at Zwolle, and took the vows in 1406. He lived a peaceful and secluded life in this convent, devoting his time to copying manuscripts and [illegible] his own books. These [illegible] ided sermons, some hymns, [illegible] at number of pious tracts. [illegible] biographies of Gerhard [illegible] founder of the school at [illegible] Florentius Radewyn, a [illegible] ister of his, and of Groot's [illegible] ples. His tracts, which deal with the monastic and Christian life, include: *The Discipline of Cloisters; The Life of the Good Monk; The Solitary Life; The Valley of Lilies; The Soul's Soliloquy; The Garden of Roses;* and *The Faithful Dispenser.* By far the most celebrated of his treatises is the famous *Imitatio Christi*, which has been translated into more languages than any other book except the Bible. Within ten years of à K.'s death there had been published eighty editions of this book. Two manuscript copies, dated 1425, exist, but a more perfect copy is in the Bourgogne Library at Brussels. The earliest English translation is that of Pynson, printed in 1503. An interesting literary controversy has raged around the authorship of the *Imitation*, the other claimants put forward being John Gerson, chancellor of the University of Paris,

and the abbot of Vercelli, but the learned, as well as the popular, verdict is in favour of the traditional authorship of à K. The *Imitation* breathes out the quiet and peace of the cloister, and with its combination of simple faith and mysticism appeals to all manner of men and women. Apart from the doctrine of transubstantiation, which is upheld in the fourth book, its teaching is accepted by Christians of all creeds. The work has, too, great literary beauty, and, as pointed out by Dr. Hirsche, in its original form has most harmonious cadences and a rhythmical flow. The 'rhythmic sentences' are preserved in Canon Liddon's translation (1889). The *editio princeps* is that of Sommoclius, *Thomas Malleoli à Kempis opera omnia*, 1607. Consult M. de Grégory, *Mémoire sur le véritable Auteur de l'Imitation*, 1830; Kettlewell, *Authorship of the De Imitatione*, 1877, and *Thomas à Kempis and the Brothers of the Common Life*, 1882; Hirsche, *Prolegomena zu der Imitatio*, 1873-74; English translations by Bishop Goodwin, 1868, and C. Bigg, 1898; Brewer's *Life*, 1676; F. R. Cruise, *Outline of the Life of Thomas à Kempis*, 1904; Montmorency, *Thomas à Kempis: His Age and Book*, 1906, and James Williams, *Thomas of Kempis*, 1910. A bibliography may be found in Wolfsgruber's *Giovanni Gersen*, 1880.

Kempston, a vil. of Bedfordshire, England, 2 m. S.W. of Bedford. The chief industry is the making of pillow lace. Pop. (1911) 5351.

Kempten (ancient *Campodunum*), a tn. of Bavaria, Swabia gov., on R. Iller, 48 m. S.E. of Ulm. There are manufactures of cotton, textiles, hosiery, paper
monastery wa
of St. Gall (c.
a French vict
(1796). Pop. 21,001.

Kempton Park, in the co. of Middlesex, England, 4 m. W. of Kingston-on-Thames. It is now used as a race-course with a station on the London and South-Western Railway.

Ken, a river of Bundelkhand, British India. It is 250 m. long and flows N.E. to the Jumna.

Ken, Thomas (1637-1711), a celebrated English prelate and one of the fathers of hymnology, born at Little Berkhampstead, Berks. Educated at Winchester and Oxford, graduating in 1664. At the age of twenty-five he took orders and held successively the country livings of Little Easton (Essex), Brightstone (Isle of Wight), and East Woodhay (Hants). In 1674 he visited Rome with young Isaac Walton, his step-sister's son, which resulted in confirming his regard for the Anglican Church. In 1679 Charles II. made him chaplain to Mary, wife of William of Orange, and in 1685 nominated him Bishop of Bath and Wells. The chief public event of his bishopric was his trial and acquittal among the 'seven bishops,' who, in 1688, refused to read the Declaration of Indulgence In 1691 he was superseded by Dr. Kidder, Dean of Peterborough for refusing to take the oath of allegiance to William of Orange. Amongst the many beautiful hymns written by K. are, *Awake my Soul and with the Sun*, and *Glory to Thee, my God, this Night*. See Lives by J. Lavicount Anderton, 1834, and Dean Plumptre, 1890.

Kenath, in Bible times a city of Manasseh. It is generally accepted that Kanatha was a later name, and that the two places are identical.

Kendal, a market tn. and parl. bor. in the co. of Westmorland, England, 22 m. N. of Lancaster. Woollens, hosiery, and carpets are manufactured. Pop. (1911) 14,033.

Kendal, Countess Ehrengard Melusina von der Schulenburg, Duchess of (1667-1743), in 1692 entered the service of the Electress Sophia. She attracted the attention of the son of the Electress, George Lewis, and became his mistress. When he came to England as George I., she followed him, and in 1716 was created Duchess of Kendal, and granted valuable pensions. She was very unpopular in this country, and after the king's death returned to Germany, where she remained until her death.

Kendal, William Hunter Grimston (*b.* 1843), an English actor and manager, became a member of the Haymarket company (1866-74), and married Madge Robertson (1869). Mr. K. has appeared as Pygmalion, Romeo, Charles Surface, Captain Absolute, and in *A Dangerous Friend*, *Uncle's Will*, *London Assurance*, *The House of C*
'silent' pa
76), and h
him at St.
Since 190
retired from the stage, but Mrs. K. acted in the gala performance at His Majesty's (1911). *See* Pemberton, *The Kendals*, 1900.

Kendall, Henry Clarence (c. 1841-
for Australian poetry with Gordon and K. His works include: *Songs and Poems*, 1862; *Leaves from an Australian Forest*, 1869; *Songs from the*

Mountains, 1880. *See* edition with memoir, 1886; Sladen, *Australian Poets*, 1788-1888, 1890; 'A Study of Kendall,' in *Austral. Ballads* (Canterbury Poets, 1885-90); *Contemp. Rev.* lii.; *Athen.*, Sept. 9, 1882.

Kendrapara, a municipal tn. of Bengal, British India, in the dist. of and 35 m. E. of Cuttack. Pop. 18,000.

Kenealy, Edward Vaughan Hyde (1819-80), an Irish barrister and author, called to the English bar in 1847. In 1873 he became leading counsel for Orton, the Tichborne claimant, and his unprofessional and violent conduct throughout the case was censured by the jury. Founding *The Englishman* (1874), K. still upheld Orton's claim, and after libellous attacks on Cockburn and others, was disbenched by Gray's Inn. He wrote: *Brallaghan . . .*, 1845; *Goethe, a New Pantomime*, 1850; *Poems*, 1864 (collected 1875-79); *Proceedings of the Tichborne Case*. See *Memoirs* by A. Kenealy, 1908.

Keneh, the cap. of the prov. of Keneh, Egypt, situated near the r. b. of the Nile. It is engaged in the manuf. of pottery, and is a centre for pilgrims. Pop. about 27,500.

Kenfig, a vil. in the co. of Glamorganshire, Wales, 12 m. S.E. of Swansea. During the 16th century it was almost totally buried beneath sand, owing to the inundation of the sea. Pop. (1911) 392.

Kenia, Mount, an extinct volcano of British E. Africa, situated between 10' and 12' S. of the equator. It has two peaks (17,200 ft. and 17,160 ft.) covered with perpetual snow.

Kenilworth: 1. A par. and market tn. of Warwickshire, England, 5 m. N. of Warwick. The castle, now in ruins, dates from the time of Henry I. It sustained several sieges, and was finally taken by Cromwell and destroyed. There are also remains of an Augustinian priory (*c.* 1122). The tanning industry is extensively carried on. Pop. (1911) 5776. *See* Scott's *Kenilworth;* Beck, *Kenilworth Castle*, 1840. 2. A suburb of Cape Town, Cape of Good Hope, S. Africa. 3. A model vil. of Kimberley, Cape of Good Hope, for the workmen of the De Beers Company. Pop. about 1500. 4. A post vil. of Wellington co., Ontario, Canada, 70 m. W.N.W. of Toronto. Pop. 1500.

Kenites, a tribe of people who inhabited the S. of Palestine, frequently mentioned in the Bible. They seem to have been included in the term Midianites.

Kenmare, a tn. in the co. of Kerry, Ireland, 14 m. S.W. of Killarney, visited chiefly for its bathing. Pop. (1911) 1111.

Kenmare River or Bay, an inlet of the Atlantic Ocean off the coast of Kerry, Ireland.

Kenmore, a vil. in the co. of Perthshire, Scotland, on the R. Tay, 6 m. from Aberfeldy. Pop. (1911) 1283.

Kennebec, a river of Maine, U.S.A., rising in Mooschead Lake and flowing S. into the Atlantic Ocean. It is about 150 m. long, and during its course it drops 1000 ft.

Kennedy, Benjamin Hall (1804-89), an English schoolmaster, noted for his extensive and thorough scholarship, fellow and classical lecturer of St. John's, Cambridge (1828). He was assistant-master at Harrow (1830-36), and headmaster of Shrewsbury (1836-66). In 1867 he became regius professor of Greek at Cambridge and Canon of Ely. K. helped to establish Girton and Newnham colleges. His works include: Contributions to *Sabrinæ Corolla*, 1850; *Public School Latin Grammar*, 1871; edition of Virgil, 1876-81; editions of Aristophanes' *Birds* (1874), [illegible]78), and [illegible] (1882); [illegible] Latin, [illegible] *My Old* [illegible] See *Classical Review*, May to June 1889.

Kennedy, James (*c.* 1406-66), Bishop of St. Andrews, and previously Bishop of Dunkeld, in which capacity he attended the Council of Florence. He took a prominent part in the politics of Scotland during the minority of James II., and afterwards acted as regent during the minority of James III. He was the founder of St. Salvator's College (1450).

Kennet, a river of England, rising in the Wiltshire Downs. It at first pursues a southerly course and then flows E., past Marlborough and Hungerford, to Newbury, eventually joining the Thames at Reading. Its length is 44 m.

Kenneth I., called MacAlpin (*d. c.* 860), a Scottish king of the 9th century, son of Alpin of Dalriada (*d.* 832-34). He drove out the Danes (841) and conquered the *Picts* (*c.* 846), becoming Ard-Righ, or ruler of the united monarchy. Scone became the capital and Dunkeld the ecclesiastical centre of his kingdom. He invaded Northumbria many times.

Kenneth II., son of Malcolm I., succeeded to the throne in 971. He warred against the Strathclyde Britons, and subdued Northumbria as far as the Tees, and the Lothians. He was slain about 995. See *Chron. of the Picts and Scots* (Skene's ed.), 1867; Skene, *Celtic Scotland*, 1876.

Kennett, White (1660-1728), an

English prelate and author, opposed to the High Church party. He became dean of Peterborough (1708), and bishop (1718-28). Among his works are: *Parochial Antiquities*, 1695 (new ed., 1818); *A Register and Chronicle, Ecclesiastical and Civil . . .*, 1728; vol. iii. of a *Complete History of England* (Charles I. to Anne), 1706. *See* Newton's *Life*, 1730; *Biog. Britannica*.

Kenney, James (1780-1849), an English dramatic writer, born in Ireland. He first attained popularity by his farce *Raising the Wind* (1803), produced at Covent Garden. He produced more than forty dramas and operas, including: *False Alarms*, 1807; *The World*, 1808; *Love, Law, and Physic*, 1812; *The Sicilian Vespers*, 1840, a tragedy; and the most popular *Sweethearts and Wives*, produced at the Haymarket in 1823, and revived several times.

Kennicott, Benjamin (1718-83), an English divine and eminent Hebrew scholar. His dissertations *On the Tree of Life in Paradise* and *On the Oblations of Cain and Abel* early won for him his B.A. degree and election as fellow of Exeter College, Oxford (c. 1747). He published *The State of the Hebrew Text of the Old Testament Considered* in 1753, unfolding his intention of labouring to improve the Hebrew text by the collation of Hebrew MSS. K. met with opposition from Warburton, Horne, and others, but gained the support of most of the clergy. Aided by many learned English and Continental scholars, he produced the *Vetus Testamentum Hebraicum cum variis Lectionibus* (1776), for which over 600 Hebrew MSS. and 16 MSS. of the Samaritan Pentateuch were consulted. These latter he valued highly, while showing a disregard of the Massoretic tradition. De Rossi continued his work in *Variæ Lectiones Veteris Testamenti* (1784-87), and Jahn published an excellent abridgement (1806). K. was appointed Radcliffe librarian (1767) and canon of Christ Church, Oxford (1770). See *Nouvelle Biog. Générale*.

Kennington, a suburb of London, Surrey, England, 1½ m. S.W. of London Bridge. It is represented in the House of Commons by one member. Here is the celebrated Kennington Oval, the county ground of the Surrey Cricket Club. Pop. (1911) 72,711.

Kenora (originally Rat Portage), a tn. of Ontario, Canada, situated on the Lake of the Woods, 122 m. E. of Winnipeg. The town possesses flour and saw mills, and there are gold mines in the neighbourhood. Pop. 5500.

Kenosha, the co. seat of Kenosha co., Wisconsin, U.S.A., situated on Lake Michigan. The city is engaged in the manufacture of waggons, carriages, brass, and leather goods. Pop. (1910) 21,371.

Kenrick, William (c. 1725-79), a miscellaneous writer. In his *Review of Dr. Johnson's new edition of Shakespeare* he attacked the doctor and his book. Johnson said of K. to Goldsmith, 'Sir, he is one of the many who have made themselves public without making themselves known.' The *London Review* was founded by him in 1775.

Kensal Green, an eccles. par. of London, England, 5½ m. W.N.W. of Charing Cross. Here is the famous cemetery which was opened in 1838.

Kensington, a parl. and metropolitan bor. and par., London, 4 m. W.S.W. of St. Paul's. Here are the beautiful Kensington Gardens, in which is Kensington Palace, birthplace of Queen Victoria. Part of this palace is now the London Museum. Pop. (1911) 172,402.

Kent (*the garden of England*), a maritime county in the S.E. It includes the islands of Thanet and Sheppey, and sends eight representatives to parliament, in addition to seven borough members. K. is mostly in the diocese of Canterbury, whose archbishop is the Primate of England. Maidstone is the capital, and other important towns are Chatham, Hythe, Rochester, Gravesend, Dover, Deal, Folkestone, Ramsgate, Margate. Woolwich and Sheerness contain arsenals and dockyards, Tunbridge Wells is a noted health resort, while Greenwich is famous for its Royal Observatory (1675) and other government buildings. Four of the Cinque Ports—Dover, Romney, Sandwich, and Hythe—belonged to K. Faversham is the centre of the fruit trade. The N. Downs run from W. to E. through the county, ending in 'the white cliffs of Albion'—Dover, Folkestone, and Hythe. Off the E. coast are the Goodwin Sands, between the N. and S. Foreland. Among the chief rivers of K. are the Thames, Medway, Stour, Darent, and Rother. Romney Marshes are in the S.E., and in the S. is the Weald, once densely wooded. Cereals and fruits are produced, and hops extensively cultivated. Cattle are reared and pastured. Oysters come from Whitstable and other parts. Manufactures include bricks, pottery, cement, paper, sacks, and gunpowder. There are many breweries, engineering works, and shipbuilding yards. K. has a number of interesting architectural remains. Pop. (1911) 1,019,870. *See* Hasted, *Historical and Topographical Survey of Kent*, 1886; Smith, *Bibliotheca Cantiana*, 1837; Jerrold, *Kent*, 1905.

Kent, Edward Augustus, *Duke of*

(1767-1820), an English prince and soldier, fourth son of George III. and father of Queen Victoria (1837-1901). He served under Grey against the French in the W. Indies (1794), became lieutenant-general (1796), Duke of Kent and Strathern and Earl of Dublin (1799), and commander-in-chief in N. America. Fort Edward in Martinique and Prince Edward Is. were named after him. He was governor of Gibraltar (1802), but a mutiny followed his severe reforms. See *Life* by Neale, 1850.

Kent, James (1700-76), an English organist and composer, a chorister of the Chapel Royal, London, under Dr. Croft. He was organist of Finedon parish church (1717), of Trinity College, Cambridge (1731), and of Winchester Cathedral (1737), resigning in 1774. He helped Dr. Boyce to compile *Cathedral Music*, and published a work containing twelve anthems. *See* Burney, *Hist. of Music.*

Kent, James (1763-1847), an American jurist, graduated at Yale in 1781. He lectured on law at Columbia College (1793-96, 1823-47), became Judge of the Supreme Court of New York (1798), Chief Justice (1804), and Chancellor (1814-23). His great work is *Commentaries on American Law*, 1826-30. He also wrote *Dissertations*, 1795, and *A Course of English Reading*, 1831. See *Reports of Johnson and Caines;* Story, *On the Conflict of Laws*, 1834; Duer's *Life; Memoirs* by his son, 1898; *Nat. Port. Gall. of Distinguished Americans*, vol. ii.

Kent, William Charles Mark (1823-1902), an English poet, biographer, and miscellaneous writer. He edited the *Sun* (1845-70) and the *Weekly Register* (1874-81). He wrote under the pseudonym Mark Rochester, among his works being *Aletheia*, 1850; *Poems*, 1870; *Mythological Dictionary*, 1870; *Corona Catholica*, 1880; *Seven Modern Wonders of the World*, 1890. K. also issued critiques, editions, or memoirs of Burns (1874), Lamb (1875, 1893), Father Prout (1881), Lytton (1875, 1883, 1898), Dickens (1872, 1884), and others.

Kentei, or Kentai, a range of mountains in the N.E. of Mongolia, and one of the ranges of the great central plateau of Asia. In this range of mountains is that one which is supposed, according to tradition, to contain the tomb of Jenghiz Khan.

Kentigern (or Mungo), Saint (*c.* 518-603 A.D.), of Culross, Perthshire, reared in St. Serf's (Servanus) monastery. The 'Apostle of the Strathclyde Britons,' he became bishop of Glasgow about 543. Driven from Scotland by Morken, he took refuge in Wales, founding St. Asaph's. He founded Glasgow Cathedral (St. Mungo), and is Glasgow's patron saint. *See* Jocelyn's 'Vita Kentigerni' (*c.* 1180) in Forbes' *Historians of Scotland*, v., 1874; Skene, *Celtic Scotland*, ii., 1877; Rhys, *Celtic Britain*, 1904; Beveridge, *Culross and Tulliallan*, 1885.

Kentish Fire, a name of a peculiar form of applause at public dinners, or political meetings, produced by clapping the hands in unison in a certain rhythm (˘–˘–). The effect is sometimes heightened by stamping, and a cry of 'ráh at intervals. It may mark approval or serve as an interruption. It probably originated in the Kentish meetings protesting against Roman Catholic emancipation (1828-29), and has since been constantly used at Protestant, Conservative, or Orange meetings, especially in N. Ireland.

Kentish Knock, Battle of the, 15 m. N.E of the North Foreland. Here Admiral Robert Blake defeated the Dutch in a naval battle in the Channel, under De Witt and De Ruyter, on Sept. 28, 1652. See *Political History of England*, vii., 1907.

Kentish Rag, the local name applied to the limestone occurring at Hythe and other places on the Kentish coast, in the Lower Greensand measures. It is a greyish-blue, and contains fossil sponges.

Kentish Town, a suburb of London, 3 m. N.N.W. of St. Paul's.

Kent's Cavern, or Kent's Hole, a cave in a small wooded limestone hill near Torquay, Devonshire. It has yielded the bones of extinct or no longer indigenous animals, intermingled with implements of stone and bone. The general character and structure of the deposits point to a prolonged period having been required for their accumulation. *See* Munro's *Prehistoric Problems*, 1897; and W. Pengelley's address to the British Association, 1883.

Kentucky, a S. central state of the American Union in the Mississippi valley. It has an area of 40,181 sq. m., and its greatest length is 400 m., breadth 175 m. In the E. and S.E. it is very mountainous, being traversed by ranges of the Alleghany system; but westward is the 'blue-grass' region, a beautiful and fertile tract noted for its stock-breeding and grazing capacity. It is drained mainly by the tributaries of the Ohio R. Coal is the chief mineral mined, and next in importance are the iron ores. K. is densely wooded, and the prevailing species of trees are the blue ash, black walnut, tulip-tree, and sweet gum. Tobacco is the staple production, also wheat, hemp, and Indian corn. Petroleum is found. Its principal manuf. is whisky, made in the central belt. The climate is

healthy, and, on the whole, temperate. K. is divided into 119 counties. The chief cities are Frankfort, Louisville, and Newport. Pop. (1910) 2,289,905.

Kentucky River, formed by three forks, rising in the Cumberland Mts., and entering the Ohio, after a north-westerly course of about 250 m. Steamboats ascend it to Frankfort, the capital of the state. It runs through a deep chasm of limestone through part of its course.

Kentville, a tn. of Nova Scotia, Canada, in King's co., 55 m. N.W. by N. of Halifax. Pop. 2500.

Kenwyn, a par. of S.W. Cornwall, England, ½ m. N.W. of Truro. Tin is mined, and there are smelting works. Pop. (1911) 8395.

Kenyon, a tn. of Ontario, Canada, in Glengarry co., 55 m. S.W. of Montreal. Pop. 5400.

Kenyon, John (1784-1856), an English poet and philanthropist, born in Jamaica. He became a friend of Coleridge, Southey, Lamb, the Brownings, and other literary men of the day. His poems include: *A Rhymed Plea for Tolerance*, 1833; *Poems . . . Occasional*, 1838; *A Day at Tivoli*, 1849, but he is better known for his charity. *See* Sharp's *Life of Browning;* Horne, *Letters of E. B. Browning;* Sandford, *T. Poole and his friends*, ii.; *Temple Bar*, April 1890, Jan. 1892.

Kenyon, Lloyd, Lord (1732-1802), a British lawyer, Lord Chief Justice of England (1788-1802) He won fame by his defence of Lord George Gordon, who was on trial for treason over the outbreak opposing toleration of Roman Catholics (1779). K. became Attorney-General in 1782, and received the title Lord K., Baron Gredington (1788). *See* Campbell, *Lives of the Chief Justices; Lives of the Lord Chancellors*, v.; *Life* by G. T. Kenyon, 1873; *Sketch of the Life . . of Lord Kenyon*, 1802; Foss, *Judges of England.*

Keokuk, a city of U.S.A., in Lee co., Iowa, on the Mississippi, about 205 m. above St. Louis. Has an elevation of 480 ft. Manufs. motor-cars, furniture, electrical supplies, tobacco, soap, etc. Pop. (1910) 14,008.

Kepler, Johann (1571-1630), a German astronomer, born near Weil in Würtemberg on Dec. 21, and died in November. He was a seven months' child, and his parents, though of noble descent, were in reduced circumstances. At six he was sent to school in Elmendingen, where his father had become an innkeeper, and in 1586 was admitted into the monastic school of Maulbronn, where the cost of his education was defrayed by the Duke of Würtemberg. From there he passed to the college at Tübingen, and while there (1594) the astronomical lectureship of Grätz was offered him, and he was forced to accept it, although we have his own assurance that at that period he had given no particular attention to astronomy. In 1597 K. married, and in 1600 he went to assist the great astronomer, Tycho Brahé (*q.v.*), and on the latter's death in October of the next year he succeeded him as principal mathematician to the emperor. K.'s life was one long struggle against poverty, and his death was due to a fever largely brought on by the fatigue and vexation of a fruitless journey to obtain a liquidation of his claims upon the imperial treasury. K.'s great claim to immortality lies in his discovery of the three celebrated laws of planetary motion which bear his name. These laws, though not proved till Newton's *Principia* appeared many years later, revolutionised astronomical calculations and won for their discoverer the undisputed title of being one of the four great men who laid the foundations of modern astronomy. For an account of K.'s laws, *see* ASTRONOMY and GRAVITATION.

Keppel, a tn. of Ontario, Canada, in Grey co., on Owen Sound. Pop. 3800.

Keppel, Augustus, Viscount (1725-86), an English admiral, was the son of the second Earl of Albemarle. After having entered the navy he was successful in many expeditions, among them the capture of Havana in 1762. In 1778, owing to Sir Hugh Palliser, who was in command with K., the French fleet were allowed to escape off Ushant. At the court-martial, however, K. was acquitted. In 1782 he was made First Lord of the Admiralty, and created a viscount.

Keppel, Sir Henry (1809-1904), an English admiral and writer, was a son of the fourth Earl of Albemarle. After service in other places he was instrumental in putting down piracy off the shores of China, and in the Pacific about the middle of the 19th century. He was in command of the naval brigade at Sebastopol, and in 1857 was successful against the Chinese in Fatshan Bay. In 1869 he was made a full admiral; G.C.B. in 1871, and in 1877 admiral of the fleet. He wrote: *Visit to the Indian Archipelago*, 1853; *A Sailor's Life under Four Sovereigns*, 1899.

Ker, Family of, the surname of two noble families of Anglo-Norman extraction, said to have been living in Scotland at the end of the 12th century. They settled in Roxburghshire, and derived their descent from the families of Fernihirst and Cessford. In 1357 John K. of Altonburn gave origin in his three sons to the families of Linton, Cessford, and Gateshaw, and in a grandson to that of Fernihirst

—the Marquis of Lothian being the present chief male representative of this family. Sir Walter K., son of Sir Andrew K. of Cessford, was created Earl of Roxburghe in 1616. The grandson of the second Earl of Roxburghe, viz. the fifth earl, was created Duke in 1707, and the present Duke of Roxburghe is the chief male representative of the family of Cessford.

Ker, John (1819-86), a Scottish Presbyterian minister, preacher at East Campbell Street Church, Glasgow, from 1851. He was professor of practical training in the United Presbyterian Hall from 1876. K. wrote *Sermons* (two series), 1868 and 1886; *The Psalms in Hist. and Biog.*, 1886; *Lectures on the Hist. of Preaching*, 1888· *Letters*, 1866-85 (1890). See *Memorial Discourses*, 1886; *Christian Leader*, Oct. 28 and Nov. 18, 1886; *Scotsman*, Oct. 6 and 11, 1886.

Kerala, one of the ancient Dravidian kingdoms, Southern India. It is almost identical with the present district of Malabar.

Kerang, a tn. of Victoria, Australia, in the co. of Gunbower, 170 m. N.N.W. of Melbourne. Pop. 1400.

Kerason, Kerasund, or **Kerasunt**, a seaport of Asia Minor, 70 m. W. of Trebizond on the Black Sea. Here the wild cherry (*L. cerasus*) grows in profusion, and it was from K., then called Cerasus, that it was taken into Italy by Lucullus. Pop. about 10,000.

Kerbela, a sacred tn. of Asiatic Turkey, about 60 m. S.W. of Bagdad, connected with the Euphrates by a canal. Here is the tomb of Hussein, son of Ali, and the goal of numbers of pilgrims. The people are engaged in making sacred bricks, and the chief exports are cereals and dates. Pop. 65,000.

Kerch, or **Kertch** (the ancient *Panticapæum*), a fortified seaport of the Crimea, Russia, situated in the gov. of Taurida, 60 m. E.N.E. of Theodosia, on the Kerch or Yenikale Strait, connecting the Sea of Azov with the Black Sea. The town is of interest from an archæological point of view. The products include leather, tobacco, cement, lime, beer, and soap; there are saw and flour mills, and in 1895 a rich vein of iron ore was discovered. During the Crimean War (1855) K. was levelled to the ground by the allies.

Kerguelen Land, or **Desolation Island**, an island in the Indian Ocean; Cape Challenger, its S. extremity, is in 49° 46′ S. lat., and 70° 5′ E. long. It is very irregular in shape, and has a long coast-line; its length is 85 m. The island is volcanic in character, mountainous, and with many glaciers. Fur seals, sea-leopards, and sea-elephants, together with skuas, gulls, albatrosses, terns, cormorants, cape-pigeons, and a variety of insects are found. A characteristic feature of the vegetation is the Kerguelen cabbage (*Pringlea antiscorbutica*), a member of the order Cruciferæ and a preventive of scurvy. The island was discovered by Kerguelen Trémarec in 1772, and annexed by France in 1893. Area 1480 sq. m.

Keriya, or **Kiria**, a tn. in Chinese Turkestan, situated 95 m. E. by S. of Khotan, and standing at a height of 4500 ft. Pop. 13,000.

Kerki, a fortified tn. in Bokhara, Central Asia. It stands on the Amu-Darya, 115 m. S. of Bokhara. The fortress, which is protected by a high wall, was strengthened by the Russians in 1885 and garrisoned by them. Pop. 5000.

Kerkrade, a com. of the Netherlands in the prov. of Limburg, 13 m. N.E. of Maastricht, near the Prussian border, with coal mines. Pop. 15,666.

Kerkuk, a tn. in the vilayet of Mosul, Asiatic Turkey, 145 m. N. of Bagdad. There is trade in salt, naphtha, and petroleum. Pop. *30,000*.

Kerll, Johann Kaspar (*c.* 1625 or 27-1693), a Saxon organist and composer of several important masses and organ works which foreshadow J. S. Bach's style, also of many harpsichord and vocal pieces. His life was spent chiefly at Munich (1656-73) and Vienna (1674-83).

Kermadec Islands, a group of volcanic islands of the Pacific Ocean, about lat. 30° S., and long. 179° W., one of the chief being Sunday Is. They belong to New Zealand. Area about 13 sq. m.

Kerman, or **Kirman**: 1. A *prov.* in the S.E. of Persia, joining Baluchistan, and having an area of about 60,000 sq. m. Most of the surface is extremely barren, the N. and N.E. being occupied by the desert of Kerman. The inhabitants are chiefly engaged in shawl-making. Pop. about 600,000. 2. The cap. of the prov. of the same name, stands at an elevation of over 5000 ft. Exports include carpets, silk, and dates. Pop. about 70,000.

Kermanshah, or **Kirmanshahah**, the cap. of the prov. of Ardelan, Persia, 275 m. W.S.W. of Teheran, and standing at the junction of the caravan routes from Bagdad, Teheran, and Ispahan. It exports carpets, wines, and opium. Pop. 60,000.

Kernahan, Coulson, an English author, born at Ilfracombe, and educated privately by his father, Dr. J. Kernahan, F.C.S., and at St. Albans. He collaborated with Mr. F. Locker-Lampson in editing the work of *Lyra Elegantiarum*, and was until 1905

literary adviser to Messrs. Ward, Lock & Co. His works include: *A Dead Man's Diary*, 1890; *A Book of Strange Sins*, 1899; *God and the Ant*, 1895; *The Red Peril; Dreams, Dead Earnest and Half Jest; Captain Shannon; Scoundrels and Co.*, 1901.

Kerner, Justinus Andreas Christian (1786-1862), a German poet and medical writer, born at Ludwigsburg in Würtemberg, and educated at the classical schools of Ludwigsburg and Maulboun, and the University of Tübingen. He took his doctor's degree in 1808, and practised in Wildbad. In 1815 he was made medical officer of Guildorf, and [illegible] where he spent t[illegible] works include: *Schattenspieler Luchs*, 1811; *Deutscher Dichterwald*, 1813; *Der letzte Blütenstrauss*, 1852; *Winterblüten*, 1859, etc.

Kerosene (Gk. κηρός, wax), a colourless mixture of liquid hydrocarbons distilled from petroleum, coal, etc., and used for lighting purposes. The specific gravity varies from ·780 to ·825, the boiling point is about 170° F., and flash point 149° F. It is called also mineral oil and photozen, and in England 'American paraffin oil.'

Kerry, a maritime co. of Munster, S.W. Ireland. The coast-line is deeply indented with bays and harbours, such as Tralee, Dingle, Kenmare, and Bantry. The surface is very mountainous, containing the Macgillicuddy Reeks (highest range in Ireland) with Carrantuol (3410 ft.), Brandon and Mangerton, Slieve Mish and Caha Mts. The famous Killarney Lakes are in this county. The rivers are short and of little importance. Among the islands off the coast are the Skelligs, Blaskets, and Valentia, where slates and flagstones are quarried. The chief towns are Tralee (capital), Killarney, Kenmare, and Dingle. Oats and butter are exported, and potato-growing and fisheries are extensive. Four members are returned to parliament. Rebellions in Elizabeth's reign destroyed much of the county's former prosperity. Pop. (1911) 159,268.

Kersaint, Armand Gui Simon de Coetnempren (1742-93), a French sailor and politician, born at Paris. He entered the navy in 1755 and by 1782 was promoted to captain for his distinguished services in action. At the outbreak of the Revolution he threw himself whole-heartedly on the side of the revolutionaries, and while holding various public offices sought to carry out a scheme for the reorganisation of the navy. He, however, opposed the execution of the king, and was executed in 1793.

Kersey, a kind of woollen cloth which is twilled, and has a smooth face, soft nap, and diagonally ribbed appearance. It probably derives its name from Kersey in Suffolk, England.

Kertch, *see* KERCH.

Kerulen, a river of Northern Mongolia, one of the head-streams of the Amur, which rises in the Kentei Mts., near Urgo, flows in a north-easterly direction, and finally enters Lake Dalai-nor, after a course of over 500 m.

Kerulen, Kyrylun, or Urgo, a tn. situated on the above river in lat. 48° 3′ N., *and long.* 114° 24′ E. There [illegible] famous Buddhist convent. Pop. [illegible]

[illegible] shub Chunder Sen, or Keshara Chandra Sena (1838-84), an Indian religious reformer, born in Calcutta of a high caste family, and educated at one of the colleges there. In 1857 he joined the Brahma Samaj, of which he shortly became the leader. In 1870 he visited England, and was warmly welcomed, especially by the Unitarians. He was not very favourably impressed by English religious activity and earnestness, and said that he returned to India as he came to England, 'an Indian and a Theist.' For an account of his doctrine and work see BRAHMA SAMAJ and ARYA SAMAJ.

Kesmark, an ancient tn. in the co. of Zips, Hungary, situated at the base of the Central Carpathians. Pop. 5000.

Kessel-Loo, a com. of Belgium in the prov. of Brabant, 1½ m. E. of Louvain. Pop. 7500.

Kessels, Matthew (1784-1836), a Dutch sculptor, born at Maestricht, and studied in Paris, under Girodet, and at Rome, where he reproduced the two famous medallions of 'Dawn' and 'Night,' and won a prize in open competition with his statue 'St. Sebastian pierced by Arrows.' His masterpiece was the 'Mausoleum' for the Comtesse de Selles at Rome.

Kessingland, a par. and vil. of Suffolk, England, 4½ m. S.W. of Lowestoft. Pop. (1911) 1500.

Kesteven, Parts of, a div. of the co. of Lincolnshire, in the S.W. of the co. Pop. (1911) 111,332.

Kestrel, the popular name of *Falco* [illegible] ls belong- [illegible] it is so [illegible] plaintive note, the alternative name, windhover, being sometimes given, owing to its habit of suspending itself in mid-air before swooping on its prey. The K. feeds on small mammals, insects, frogs, worms, etc., and is welcomed by landowners as a destroyer of vermin. The male bird attains a length of 12½ in., and has

plumage of a reddish tinge, with head and neck of ashy grey; the female has dark spots or streaks with indistinct bars on the tail. It rarely builds its own nest, but uses those of crows, pies, etc., or scrapes a hole on some cliff-ledge. It is found all over Europe and N. Asia, and migrates in the winter to China, India, and N.E. Africa. *F. cenchris*, the lesser K., is an inhabitant of S. and S.E. Europe.

Keswick, a tn. in co. Cumberland, England, 24 m. S.W. of Carlisle. Owing to its position on Lake Derwentwater and at the foot of Skiddaw it is a favourite place for visitors, while among its interesting features is the parish church of Crosthwaite. K. was also the home of Southey. Its principal industry is the manuf. of lead pencils. Pop. (1911) 4403.

Keszthely, a tn. in the co. of Zala, Hungary, near the western end of Lake Balaton, with marble and basalt quarries. Pop. 6600.

Ketch (from Turkish *qâiq*, a boat; *cf.* Dutch *kits* and Fr. *carche*), a small, strongly-built, two-masted vessel of 100 to 150 tons burden. The peculiarity of the rig formerly afforded ample space, and they were much used as bomb-vessels. The masts are the main and the mizzen, and the sails are mostly fore and aft. Ks. were formerly much used as yachts.

Ketch, Jack (*d.* 1686), was appointed public executioner about 1663, and for two centuries his name was used as a nickname for the holder of his office. This was probably due to his bungling execution of Lord Russell in 1683, for which he published an 'apologie.'

Ketchup, a name of a sauce which is used as a flavouring. It is usually made from mushrooms or walnuts, which are spiced and salted.

Ketel, Cornelis (*c.* 1548-*c.* 1616), a Dutch painter, sculptor, and poet, born at Gouda, studied under Blocklandt (Montfoort) at Delft. He went to Paris and painted in the palace at Fontainbleau. In 1573 he came to London and painted portraits; Queen Elizabeth, the Earls of Arundel, Pembroke, Oxford, Lincoln (in the National Portrait Gallery, London), Sir Christopher Hatton, besides other notable people, sat to him. K. returned to Holland in 1581. He did some of his painting with his fingers without the aid of brushes.

Keti, a seaport on the delta of the Indus, district of Karachi, Sind, British India. It is an important trading centre for sea and river traffic. Pop. 2127.

Ketones, a class of organic compounds allied to the aldehydes, but containing two alkyl groups united to the carbonyl (CO) group. The simplest ketone is acetone, or dimethyl ketone, $CH_3.CO.CH_3$; phenyl methyl ketone or acetophenone (used as a soporific under the name of hypnone) is $C_6H_5.CO.CH_3$, and so on. Ks. are prepared by oxidising secondary alcohols or by heating the calcium salt of a fatty acid; they are stable substances which form crystalline addition products with acid sulphites and condensation products with phenylhydrazine and hydroxylamine. On reduction they yield secondary alcohols, and on oxidation a mixture of acids

Ketteler, Wilhelm Emanuel, Baron von (1811-77), a German theologian and politician, born at Harbotten, Bavaria. He was deputy to the Frankfort National Assembly, where he attained recognition as an orator. He was ordained in 1844 and consecrated Bishop of Mainz in 1850, when he began his famous struggle for the supremacy of the church in educational matters. He was later a fierce opponent of the German empire. He published *Freiheit, Autorität und Kirche* (7th ed.), 1862, and several other works.

Kettering, a market tn. of Northamptonshire, England, 72 m. N.N.W. of London. Boots and shoes form its principal trade. There are also iron quarries in the district. Pop. (1911) 29,976.

Kettle-drum, *see* DRUM.

Keunjhar, or Keunjur, a small native state of Orissa, Bengal, India. Its capital, Keunjhar, is the raja's seat, about 85 m. from Cuttack. Pop. of state, 286,000.

Keunthal, or Keonthal, a Punjab hill state of India, in the Punjab. Area about 120 sq. m. Pop. about 23,000.

Keuper (from a local miners' term), the German name for the third or upper division of the Triassic geological system. In the German region K. is divided into three groups: the Rhætic, or upper (Hautkeuper or Gypskeuper), the middle, and the lower (Kohlenkeuper or Lettenkohle). The first is mainly composed of sandy dark grey shales and marls; the second, the thickest bed, of a marly series of grey and green marls, gypsum, dolomite, and sandy shales below; the third, of grey dolomite with a bed of Lettenkohle, or impure coal at the base. In Great Britain the beds are usually divided into Rhætic or Upper Keuper marl and Lower Keuper sandstone. K. is not rich in fossils.

Kew: 1. A par. of Surrey, England, in the bor. of Richmond, on the R. Thames, 7 m. S.W. of London. A bridge connects K. with Brentford.

The church on the green, dating from 1713, contains the mausoleum of the first Duke and Duchess of Cambridge and Gainsborough's grave. In the 18th century Frederick, Prince of Wales, lived at Kew House. George III. purchased the property later, and Queen Charlotte died there (1818). The magnificent Royal Botanical Gardens, containing the most famous collection of plants in Europe, were founded in 1759 by George III.'s mother, and have since increased in extent from 11 to about 290 acres, now forming the chief feature of interest at K. They were presented to the nation by Queen Victoria (1840), and have since been kept up at national expense, and are open daily free to the public. The finely timbered grounds owe much of their fame to the care of Sir W. J. Hooker (1785-1865), and his son (*b.* 1817), who were both in turn directors of the Botanical Gardens (1841-85). The Temperate House (finished 1899) is one of the largest plant-houses in the world. There are numerous fine conservatories, palm-houses, orna- [illegible] three [illegible], and [illegible] agoda (erected 1761) is about 163 ft. high. Chronometers and scientific instruments are tested at the Kew Observatory or [illegible] Pop. (1911) [illegible] of *the Co* [illegible] of Bourke [illegible] sidential suburb, 4 m. from Melbourne. Pop. about 10,000.

Kewanee, a city of Henry co., Illinois, U.S.A., situated 130 m. W.S.W. of Chicago. It manufs. boilers, pumps, etc. Pop. (1910) 9307.

Keweenaw, a co., Michigan, U.S.A. consisting of the northerly portion of Keweenaw Peninsula. It is very rich in copper. Pop. (1910) 7156.

Key, *see* LOCKS AND KEYS.

K[illegible] hand-tool for [illegible], or any devi[illegible] parts to prev[illegible] the first sense a spanner is a K., and in the second, the cotter between the hub and shaft of a wheel.

Key, in music, the term applied to a succession of tones in a scale considered with reference to their harmonic relations to one another, and to the chords which can be formed by them. The lowest tone in each scale is the tonic or keynote, and gives its name to the key, which may be either major or minor, according to the intervals. The term key is also applied to the levers by which the sounds of a musical instrument are produced.

Key, Sir Astley Cooper (1821-88), an English admiral, born in London and entered the navy in 1833. He distinguished himself at the time of the Crimean War, and received a C.B. in 1855. In 1858 he was made a member of the Royal Commission on National Defence, and in 1863 superintendent of the Royal Naval College. He was created rear-admiral in 1866, and vice-admiral and K.C.B. in 1873. Previously between 1869 and 1872 the posts of superintendent of Portsmouth and of Malta dockyards, and of second in command of the Mediterranean, had been filled by him. In the latter year he was made president of the Royal Naval College of Green- [illegible] in 1878, [illegible] Naval Lord [illegible] 79-85, and G.C.B. in 1882.

Key, Francis Scott (1779-1843), an American poet, born in Maryland. His best-known work is *The Star-spangled Banner*, 1813; he is buried at Frederick, Maryland, where there is a monument erected to him at the entrance to the cemetery.

Key, Thomas Hewitt (1799-1875), an English classical scholar, educated at St. John's and Trinity Colleges, Cambridge. From 1825-27 he was professor of mathematics at the University of Virginia, and in 1828 professor at the University of London. In 1832 he was made joint headmaster of the school in connection with the university, and in 1842 sole headmaster. He introduced the crude form used by Sanskrit grammarians into the study of Latin.

Key-dwellers, the name formerly given by archæologists to a now extinct race. They lived in the numerous island reefs or 'keys' (Spanish *cayo*, barrier, reef) off the W. Indies and Spanish America, especially in the low islets or sandbanks off the S.W. coast of Florida, the chief being Cayo Largo and Cayo Hueso (Thompson's Is. or Key West), about 55 m. from Cape Sable. Wrecks are frequent near this group of coral islands. *See* Cushing's *Report of the Pepper-Hearst Expedition* (Philadelphia), 1897.

Keyham, situated on Keyham Lake, is a part of Devonport, England, and has a large dockyard.

Key Islands, *see* KEI ISLANDS.

Keymer, a par. and vil. of Sussex, England, 8 m. N. of Brighton. Pop. (1911) 4400.

Keyne, St., a virgin saint who lived about 485 first in Wales, and afterwards in Cornwall. She is supposed to have imparted certain power to the water in a spring there, that the first of a newly-married pair drinking it, shall be the ruler. The name still survives in a Cornish church near Liskeard

Keynsham, a tn. in the co. of Somerset, England, 5 m. S.E. of Bristol. It has brass and dye works, and possesses the ruins of an abbey of the 12th century. Pop. 10,141.

Key West, a port of entry, health resort, and co. seat of Monroe co., Florida, U.S.A., on Key West Island, *the most westerly of the group of* Florida Keys. Its harbour, which is an exceedingly fine one, is defended by Fort Taylor. The people are engaged principally in the manufacture of cigars, and in sponge-fishing, but turtles, fish, fruit, and vegetables are also among the exports. Pop. (1910) 19,945.

Khabarovsk, a tn., and the cap. of the Maritime prov. of Siberia, at the junction of the Amur and Ussuri. It is connected by railway with Vladivostock 470 m. S.W. Pop. 16,000.

Khafra, or **Cephren**, called by some writers **Saophis**, a king of Egypt, and the builder of the second largest of the three pyramids.

Khair-ed-din, Barbarossa (*d.* 1546), a Greek and a native of Mitylene. He, with his brother Horuk, both of them acting as Turkish pirates, ravaged the shores of the Mediterranean during the early part of the 16th century. He captured Tunis for the Turks.

Khairpur: 1. A native state in Upper Sindh, India. Area 6100 sq. m. Pop. 200,000. 2. The cap. of the above state, situated near the Indus. Pop. about 14,000.

Khalat-i-Ghilzai, a fort in Afghanistan, situated on an isolated height *5543 ft.* above sea-level. It lies 87 m. N.E. of Kandahar.

Khaled, or **Caled** (582-642), one of Mohammed's greatest generals, born at Emesa. He was known among the Arabs as 'The Sword of God,' and hesitated at no cruelty in order to advance the religion of his master. K. slaughtered the garrison of Damascus after granting them their liberty.

Khalfa, Haji, or (in full) **Mustafá ibn 'Abdallâh Kâtib Chelebi Hajji Khalifa** (*c. 1599-1658*), *an Arabic and* Turkish author. He was with the army in Bagdad (1625), and present at the siege of Erzerum, returning to Constantinople in 1628; he made a pilgrimage from Aleppo to Mecca in 1633. H
Ency. in
1835-58;
Persian
historical works *see* Brockelmann, *Gesch. d. arabischen Literatur*, ii., 1902.

Kham, a prov. situated in the E. of Tibet. Chiamdo is its chief town. The upper course of the Yang-tse-kiang traverses K.

Khama, the head of the N. African tribe of the Bamangwato, Bechuanaland. He appealed to England against Boer encroachments, and in 1884 Britain took Bechuanaland under her protection.

Khamagaon, a tn. in the dist. of Akola, British India, 28 m. W. of Akola. Has a cotton and opium market. Pop. 15,500.

Khamsin (Arabic, *fifty*), a *hot*, oppressive, southerly wind of Egypt, blowing at intervals during March, April, and May for about fifty days, lasting generally for three days or so. It fills the air with sand, and during its prevalence diseases native to the country are very virulent.

Khan, a Mongolian title of respect used in Mohammedan countries. It has the meaning of sovereign or emperor among the Mongol tribes.

Khandeish, or **Candeish**, two dists. (E. and W.) in Deccan, Bombay, India. K. is intersected by the Tapti R. A great part of K. consists of a fertile plain, but in the extreme E. there is a small, very unhealthy tract. The chief town is Dhulia. Pop. 1,460,500.

Khandwa, a tn. in the Nimar dist., Central Provinces, India. It contains some ancient temples, and is the seat of the cotton trade. Pop. 19,401.

Khan-Tengri, a snow-capped peak of the Tian-Shan Range, Central Asia, 85 m. S.E. of the eastern shore of Lake Issik-kul. Height 24,000 ft.

Kharbin, a tn. in Manchuria, on the R. Sungari, 370 m. W. of Vladivostock. It is an important railway centre, the Trans-Siberian Railway dividing here, one branch going to Port Arthur and the other to Vladivostock. K. was built in 1898. It has many industrial establishments, including flour mills, distilleries, brick works, etc., and is the centre of a rich agricultural grazing district. It also has large mineral fields which, as yet, have not been very much developed. During the Russo-Japanese War K. was the hospital centre and chief reserve depôt of the Russian army. Pop. about 110,000 (*Europeans and Chinese*).

Kharga, called the **Great Oasis** of Egypt, lies in the Libyan desert, and belongs to the Mudiria of Assiut. It is 100 m. long and 12 to 50 m. broad, having an area of about 1200 sq. m. There is little or no rain, but many wells, some of great antiquity. The chief trees found are the date palm, tamarisk, and accacia, and rice and wheat are grown. The inhabitants, who are of Berber stock, are chiefly engaged in basket work. A railway joins K. with the Nile valley. Pop. 8348. *See* Beadnell's *An Egyptian Oasis*, 1909.

Kharkoff, or **Kharkov**, a gov. of Little Russia, and comprises eleven

districts. Area 21,041 sq. m. It occu-

Pop. 3,245,900. K., the cap. of the above gov., is the archiepiscopal see of the Orthodox Greek Church. It has an important university, and holds four annual fairs. Pop. 221,193.

Kharput, a tn. in Kurdistan, Asia Minor. Pop. (estimated) 30,000.

Khartoum, or Khartum, a prov. and chief tn. of Anglo-Egyptian Sudan, Africa, on the Blue Nile (Bahr-el-Azrek) near its junction with the White Nile (Bahr-el-Abiad). It was founded about 1820 by Mohammed Ali, and is strengthened by walls and forts. It has fine European government buildings, quays, mosques, barracks, and a street railway. There are railway connections with Lower Egypt and with Upper Egypt and Port Suakin on the Red Sea. Ivory, ostrich feathers, gum, and fruit are exported; grain and textiles are among the imports. A bridge connects the town with its suburb Khartoum North or Halfaya. K. was formerly a depôt for slaves sent from Sudan and Abyssinia into Egypt. It fell into the hands of the Mahdi in 1885, and Gordon, after his gallant defence the subsequent Dervishes under Mahdi's successor city and made Omdurman their headquarters. Not until 1898 were they defeated and K. recaptured by Anglo-Egyptian troops under Kitchener. Much of its former trade and prosperity has now been restored. Pop. (including suburbs) 70,000. *See* Stevens, *With Kitchener to Khartum* (7th ed.), 1898.

Khasi Hills, The, form, with the Jaintia Hills, a district of Assam, India. *See* JAINTIA HILLS.

Khasis, an Indo-Chinese race inhabiting the Khasi Hills, Assam, India. Their language is monosyllabic and they are a primitive race. Consult P. R. T. Gurdon, *The Khasis*, 1907.

Khaskoi, the cap. of the dept. of that name in Roumelia, Bulgaria, 45 m. from Philippopolis. It has considerable trade in tobacco, silks, carpets, and woollen goods. Pop. 15,000.

Khatanga, a river of Eastern Siberia, flowing from a lake in the gov. of Yeniseisk into the Bay of Khatanga, Arctic Ocean. Length (estimated) 700 m.

Khatmandu, the cap. of Nepal, India, near the confluence of the Baghmati and Vishnumati Rivers. Pop. about 50,000.

Khayyam, Omar, *see* OMAR KHAYYAM.

Khazars, The, were an ancient descended from of Japhet. spurs of the Caucasus and the shores along the Caspian Sea. Itel was their chief city and formed the centre of trade with Persia, Byzantium, Russia, and other countries.

Khedive, or Khidiv, a Persian title (prince or sovereign), granted by the Turkish sultan to his viceroy in Egypt in 1867, instead of the former title 'Vali' (viceroy). It was thenceforward adopted as the official title of the Pashas of Egypt, and sometimes used by independent provincial governors in Persia. Religious supremacy only was acknowledged in the sultans and shahs. Since the settling of the British in Egypt, the K.'s power has decreased.

Khelat, Kelat, or Kalat, the cap. of Baluchistan, situated on the summit of a high hill (6600 ft.). It is a walled and fortified town, and the residence of the khan. Pop. about 14,000.

Kherson, or Cherson: 1. A gov. of S.W. Russia, bordering on the N. coast of the Black Sea. It is watered by the Dniester (its western bound- e Dnieper (its eastern), the d Ingul. By the shore stretch salt lagoons. The chief in- are agriculture and cattle-rearing. There are large crops of wheat, barley, etc., and tobacco, hemp, flax, and maize are also grown. Fishing is an important occupation of the inhabitants, and there are manufs. of leather, wool, carriages, chemicals, sugar, etc. Area 27,337 sq. m. Pop. 3,447,100. 2. The cap. of the above, on the r. b. of the Dnieper, was founded in 1778 by Catherine II. as a seaport and naval station. There is an active river traffic, and the chief industries are brandy-distilling, wool-cleansing, soap-boiling, and the manuf. of tobacco. In the cathedral is buried the courtier Potemkin. Pop. 67,237. 3. The ruins of a city of this name remain near the southern extremity of Crimea, Russia. It was founded by the Greeks in the 6th century.

Khien-Loung, Emperor of China, *see* KIEN-LOONG.

Khiva, Khivarezm, or Kharezm, a khanate of Russian Central Asia, occupying part of the delta of the R. Amu Darya and extending from 41° to 43° 40′ N. lat., and from 58° to 61° 50′ E. long. The district around K. is watered by numerous irrigating canals from the R. Amu, and forms

an oasis with an area of 5210 sq. m. Here are grown millet, rice, wheat, barley, oats, peas, flax, hemp, and a great variety of fruits, including the vine and a large quantity of melons. Sheep, cattle, horses, and camels are reared. The principal trade is done with Russia and Bokhara. The present khanate is but a relic of a mighty kingdom which once held great possessions; the ruler is now practically subject to Russia. Chief towns, Khiva, Urgenz, Hazarasp, and Kungrad. Pop. 800,000.

Khiva, the cap. of the above, a tn. situated 240 m. W.N.W. of Bokhara, having twenty mosques and four large madrasas (Mohammedan colleges). The manufs. include carpets, silks, and cotton. Pop. 5000.

Khnopff, Fernand Edmond Jean Marie (*b.* 1858), a Belgian painter, born at Grembergen, Termonde. He studied under X. Mellery, and has been much influenced by the English pre-Raphaelite school, notably by Rossetti and Burne-Jones. His work is distinguished by a certain curious mystic note, as found in the enigmatic 'Silence' (1890), and 'Sibyl' (1894). It is individualistic, and the colouring is fresh and delicate. His best-known works are: 'The Small Sphinx,' 'Memories,' and 'I Lock My Door upon Myself.' *See* the study by Dumont-Wilden (Brussels, 1907).

Khoi, a tn. in the prov. of Azerbijan, Persia, 75 m. N.W. of Tabriz. Here the Persians were defeated by the Turks under Selim I. in 1514. The chief industry is agriculture; fruit, grain, and cotton are especially cultivated. Pop. 25,000.

Khojend, or Khojent, a walled tn. in the prov. of Syr-darya, Russian Turkestan, 75 m. S.W. of Khokand. The town belonged alternatively to the emirs of Khokand and Bokhara, and was besieged by the Russians in 1866. There are manufs. of silk, cotton, and china ware. The inhabitants, who are mostly Tajiks, number about 32,000.

Khokand, a tn. of Asiatic Russia, cap. of Fergana, 350 m. E.N.E. of Bokhara. The former palace of the Khan has been converted into the governor's residence. The tn. has a busy market and exports silk. Pop. 84,000.

Kholm (Polish *Chełm*), a tn. in the Lublin gov., Russian Poland, 45 m. E. of Lublin. It has an old castle and a fine cathedral. Pop. about 20,000.

Khonds, or Kus, a Dravidian people who inhabit the Central Provinces of India. They used formerly to offer human beings as sacrifices. They must not be confused with the Gonds. Their number is estimated at 700,000.

Khonsar, or Khunsar, a tn. in the prov. of Irak-Ajemi, Persia, 83 m. W.N.W. of Ispahan. Pop. 12,000.

Khorassan (land of the sun), a north-easterly prov. of Persia, to the W. of Afghanistan. Area about 200,000 sq. m. It is traversed by spurs of the Elburz Mts. The chief products of the soil are tobacco, opium, cotton, and fruits. Shawls, carpets, swords, and silk are manufactured, and there are turquoise mines at Nishapur. Cap., Meshed. The pop.. made up chiefly of Iranians and Arabs, is estimated at 1,000,000.

Khorsabad, a vil. of Asiatic Turkey, 13 m. N.E. of Mosul. The first discovery of the antiquities of Nineveh was made here by Paul Botta in 1843.

Khosru I., II., *see* CHOSROES I., II.

Khotan (locally **Ilchi**), the name of a tn. and oasis of Eastern Turkestan. The oasis lies between the northern extremity of the Kuenlun and the edge of the Takla Makan Desert; there are two small towns therein, Kara Kash and Yurin Kash, and 300 villages. Cereals, rice, flax, hemp, tobacco, opium, and cotton are produced, and a trade is carried on with India and China. The town of K., formerly of great importance, lies about 180 m. S.E. of Yarkand, and is composed of narrow, dirty, winding streets, with open squares at intervals. Sven Hedin discovered the ruins of ancient cities in the Khotan dist. Jade or nephrite for fancy articles, etc., has long been a famous production; in addition carpets, silk, and felt, silk goods, and hides are manufactured. Area of desert 400 sq. m. Pop. 50,000; of town, 5000.

Khotin (Pol. *Chocim*), a tn. in the Bessarabia gov., Russia, on the Dniester; not far from the Austro-Hungarian frontier. The Turks were defeated here by John Sobieski (1673). Pop. 30,000.

Khulna, a tn. of Bengal, British India, 80 m. E.N.E. of Calcutta. Rice, tobacco, dates, bananas, etc., are grown extensively. Pop. 10,000.

Khurja, a tn. in the Bulandshahr dist., United Provinces, India, 50 m. S.E. of Delhi. It is a centre of the cotton trade. Pop. 30,000.

Khushab, a tn. in the dist. of Shahpur, Punjab, India, on the Jehlum, 105 m. S.S.W. of Rawal Pindi. It has a busy trade in cotton prints and coarse cloth. Pop. 12,000.

Khuzistan, or Arabistan (ancient *Susiana*), a prov. of Persia, bordering on the northern shores of the Persian Gulf. The northern and easterly district is hilly and productive. Large tracts are used as pasture land, and rice, cotton, sugar-cane, dates, tobacco and opium are grown. The southern portion is flat and unfertile, and during the rainy season is often

swamped. Cap., Shuster. Area 25,700 sq. m. Pop. about 200,000.

Khyber (or Khaibar) Pass, a narrow pass connecting Afghanistan with the Punjab, and is on the line of route from Peshawur to Kabul. Its length is about 33 m., and its width varies from 450 ft. in its widest part to about 50 ft. in its narrowest part. It is flanked on both sides by mountains which rise sheer above it to a height of 3000 ft. in some places, its summit being at Landi Kotal, which is 1700 ft. higher than Jamrud. During the Afghan wars of 1839-42 and 1878-80, the British were successful in crossing it in spite of great resistance, and it is now under the control of the Anglo-Indian government.

Kiachta, or Kiakhta, a tn. in the Transbaikalia gov., Siberia, close to the Chinese frontier. It is an important trading centre for tea. Pop. 9000.

Kiamil Pasha, a Turkish politician. He was Grand Vizier in 1885. His action in regard to the Armenian unrest in 1890 led to his dismissal. As an advanced Liberal he was again made Grand Vizier in Aug. 1908, after the Young Turk Revolution. He was forced to resign in Feb. 1909, and was succeeded by Hilmi Pasha. He was grand vizier for a third term during the Balkan War (1912-13), and was succeeded by Mahmud Shevket Pasha at the *coup-de-etat* of Jan. 23, 1913.

Kiang-si, an eastern prov of China, with an area of 69,480 sq. m. The Nan-shan Mts. lie across the province in a south-westerly and north-easterly direction. In the N.E. region is the immense Po-yang Lake (1200 sq. m.), which receives the waters of the Kan Kiang and the Chang Kiang. The most important product is tea, the best black teas of China being produced in this region. Other products are tobacco, hemp, cotton, silk, grass-cloth, and paper. China ware is manufactured at King-te-chên. The capital is Nan-ch'ang Fu, on the Kan Kiang. Pop. of province 26,532,125.

Kiang-su, a maritime prov. of China, bordering on the Yellow Sea to the E. Area 38,600 sq. m. It is a great plain, with no hills, and is watered by the Grand Canal, running S. to N., and by the Yang-tse-kiang R. The capital is Nanking, and the chief port Shanghai. Some coal and iron ore is extracted near Nanking; sugar, tea, and cotton are grown; and beautiful silks are manufactured. Pop. 13,980,235.

Kiao-Chou, *see* CHIAO-CHOU.

Kicking-Horse Pass, in the Rocky Mts. of Eastern British Columbia, Canada, on the Canadian Pacific Railway. It has an altitude of 5296 ft., and is traversed by the Kisking-Horse, or Wapta, R.

Kidd, William (Captain Kidd) (*c.* 1645-1701), a pirate of Scottish extraction. In 1691 he was awarded £150 from the council of New York for his services in privateering against the French. He was put in command of a ship in 1696 with orders to seize the pirates that infested the Eastern Seas, and reached Madagascar in 1697. In 1698-99 it was reported in England that K. was plundering trading-vessels, and had associated himself with the pirates. He was arrested, and having been formally charged for the murder of one of his crew and for piracy, was found guilty and hanged at Execution Dock, London.

Kidder, Richard (*c.* 1630-1703), Bishop of Bath and Wells, was educated at Emmanuel College, Cambridge, of which college he was made fellow in 1655. On refusing conformity to the Prayer Book, he was ejected from the benefice of Stanground in 1662, but later conformed and rose to episcopal rank. He continued, however, to be viewed with suspicion by zealous churchmen. Amongst his writings may be mentioned *Demonstration of the Messiah*, 3 vols., and *A Commentary on the Five Books of Moses*.

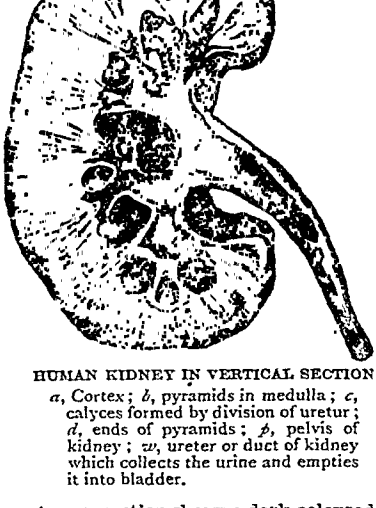
Kidderminster, a parl. and municipal bor. and market tn. in the county of Worcester, situated on the Stour, 14 m. N. of Worcester. The church of All Saints is a fine example of Early English architecture with Decorated and Perpendicular additions. There are worsted-spinning mills, dye works, tin-plate works, in addition to the chief industry, the manufacture of carpets, which was introduced in 1735. The 'Kidderminster' carpets, an inferior kind, are now not manufactured in such quantities as are the Brussels, Wilton, and Axminster varieties. The Stafford and Worcester Canal passes through the town. The borough returns one member to parliament. Area 1214 acres. Pop. 29,000.

Kidnapping is defined by Blackstone as the forcible abduction or stealing away of a man, woman, or child from their own country and sending them into another. It is now, however, usually confined to the offence of child-stealing, or the crime of leading, taking, or enticing away a child under fourteen, with intent either to deprive the parent or other person having lawful care or charge of the possession of the child or to steal any article upon the child. The offence is a felony under the Offences against the Person Act, 1861, punishable with penal servitude to the extent of seven years. Of a similar nature is the misdemeanour of forcibly

taking an unmarried girl under sixteen out of her parents' or lawful guardian's possession, such abduction being punishable by imprisonment not exceeding two years. Blackstone under the title of K. notices also the cognate offence of forcing a seaman on shore from a vessel and leaving him there; which offence is now a specific crime under the 57 and 58 Vict. c. 60, and punishable with imprisonment not exceeding two years, orsummarily six months' imprisonment or a penalty not exceeding £100.

Kidney-bean, *see* BEAN.

Kidneys, The, are two organs, in man somewhat larger than in the sheep, placed in the lumbar region of the abdominal cavity, one on each side of the spine, to which the concave side is turned. Through this concavity the renal arteries and veins connect the organ with the aorta and vena cava inferior, and the ureter proceeds from the K. to the bladder.



HUMAN KIDNEY IN VERTICAL SECTION

a, Cortex; *b*, pyramids in medulla; *c*, calyces formed by division of uretur; *d*, ends of pyramids; *p*, pelvis of kidney; *w*, ureter or duct of kidney which collects the urine and empties it into bladder.

A cross section shows a dark-coloured cortex, a lighter medulla, and a number of pyramids with their apices pointing into the pelvic cavity. These pyramids are formed by fine tubules arranged in parallel and terminating at the apices in small orifices. At the base of each pyramid they subdivide and radiate, coil and interlace in the medulla, and each finally terminates in a capsule. These *Malpighian* capsules are entered by the arterial capillaries, which form bunches, glomeruli nearly filling the capsules. The blood leaves by a network of capillaries which surround and enfold the tubules. Here and in other portions the lining of secretive cells obtain from the blood the products which it is the function of the K. to excrete, and the urine thus formed passes out of the tubules into the ureter and thence into the bladder. A normal man excretes some 50 oz., or 2½ pints, per day, consisting of urea (about 2 per cent.), uric acid, urates, phosphates, oxalates, chlorides, etc.; sodium chloride forms the chief salt and about 1 per cent. of the urine, the other base being potassium, calcium, and magnesium. The urea itself represents nearly all the nitrogen of the proteids introduced into the body, and the K. are thus looked upon as the excretory organs of nitrogenous waste.

Diseases.—Congenitally these group under the heads of anomalous position or number, atrophy of one, cystic disease, and growths. *Floating kidney* is due to insecure peritoneal banding in the bed of fat which surrounds the K. It is not usually of importance, but may cause trouble by kinking of *the vessels at the hilum. The principal* growths affecting the K. are tubercle, adinoma, and sarcoma; they are recognised partly by hæmature and general emaciation, and are extremely dangerous, but the K. are not prone to malignant disease. Dieting and rest are essential; medicinal treatment being of little use and surgical resorted to only in very minor cases. For *Bright's disease*, see NEPHRITIS. Calculi, consisting of uric acid, sometimes of oxalates, and occasionally of phosphates, are frequently found in the pelvic cavity; commencing as minute grains they become larger by accretion and give rise to renal colic, or such conditions as hydromphrosis, when the passage of urine may be prevented: pyonephritis, the pelvis becoming filled with pus; internal abscess or perinephritic abscess: or even possibly cancer.

Kidney Stones, reniform masses of ferric oxide, usually red or brown; neither so hard nor so dense as crystalline hæmatite; usually occur in association with clay as in the S. of England. This deposit is the *red ochre* of commerce.

Kidney-vetch, or Lady's-fingers, the popular name of *Anthyllis vulneraria*, a leguminous plant which flourishes in Britain. The plant is a herb with glaucous leaves, the capitulate inflorescence is composed of yellow flowers, the stamens are united by

their filaments, and the floral mechanism is like that of the *Lotus*

Kidron, or **Kedron**, a brook which formerly flowed through a ravine in the valley of the same name, E. of Jerusalem in Palestine. It is frequently mentioned in the Bible.

Kidsgrove, a tn. in Staffordshire, England, 5 m. N. of Newcastle-under-Lyme. It has coal mines and blast furnaces. Pop. (1911) 9012.

Kidwelly, or **Cydweli**, a bor. and seaport of Carmarthenshire, Wales, on the Gwendraeth, near Carmarthen Bay. It has tin-smelting and brick works, and coal mines. Pop. (1911) 3035.

Kieff, *see* KIEV.

Kiekie, the popular name conferred on *Freycinetia Banksii*, a species of Pandanaceæ found in Polynesia. The plant is shrubby in habit and the inflorescence is a spadix.

Kiel, the chief naval port of Germany in the Baltic, and a town of the Prussian province of Schleswig-Holstein, situated 27 m. S.E. by S. of Schleswig. There is a royal palace, a university founded in 1665, St. Nicholas' Church, of the 13th century, and a castle with a sculpture gallery. The harbour has an average depth of 40 ft., a length of 11 m., and a breadth varying from ½ m. at the S. end to 4½ m. at the mouth. It is well defended, and there are five *imperial* docks. The town has a trade in coal, timber, cereals, fish, butter, and cheese, and manufactures of iron goods, soap, machinery, tobacco, starch, fish curing; there are also oil works, breweries, and printing works. The Kaiser Wilhelm *or* Kiel Canal has its eastern entrance at Wik, 1½ m. to the N. of Kiel. Pop. 208,845.

Kielce, or **Kieltsy**: 1. A gov. of Russian Poland, separated from Galicia by the Vistula. Area 3897 sq. m. It has valuable deposits of minerals, including coal, iron, copper, lead, zinc, sulphur, etc. The inhabitants are chiefly engaged in agriculture; and potatoes, vegetables, and grain are exported. There are flour mills, tanneries, and potteries; and machinery, paper, glass, leather goods, and metal objects are manufactured. Pop. 965,200. 2. The cap. of the above gov., 85 m. N.E. of Cracow. Its chief industries a[illegible] of pope, bricks, and [illegible] up of Jews and [illegible]

Kielland, Alexander Lange (1849-1906), a Norwegian author, born at Stavanger. He was educated at the University of Christiania, and became burgomaster of his native place (1891-1906). He was one of the leading novelists of his country, his earlier works being written in the style of Zola. His first novel was *Garman og Worse* (1880), which made his reputation, followed in rapid succession by *Arbeidsfolk*, *Skipper Worse*, *Sne*, and many short tales. He also wrote some plays of a bright and lively description, *viz. Bettys Formynder* and *Sankt Hans Fest*, and a *Life of Kristian Elster*, 1882.

Kiepert, Johann Samuel Heinrich (1819-99), a German geographer, born in Berlin, and educated at the university there. His first work, in conjunction with Karl Ritter, *Atlas von Hellas und den hellenischen Kolonien*, 1840-46, established his reputation as a cartographer of ancient history. From 1845-52 he acted as director of the Geographical Institute at Weimar, and in 1854 was appointed professor [illegible] Berlin. His works [illegible] graphischer [illegible] the famous [illegible] ehrbuch der [illegible]; and *Leit* 1879 (Eng.

Kierkegaard, Sören Aaby (1813-55), a Danish philosopher, born at Copenhagen. He graduated in 1840 at the university of his native town, and then travelled for two years in Germany. His first publication, *Papers of a Still Living Man*, 1838, on Hans Anderson, received little notice, but his *Enten - Eller* (Either - Or), published in 1843, made his reputation as a great thinker. He also wrote *Stadier paa Livets Vei* (Stadia on Life's Way) in 1845, and many other works. In these he examined the fundamen[illegible] and disc[illegible] rules of li[illegible] attacked [illegible] National [illegible] of his wo[illegible] Consult t[illegible] Brandes [illegible] and his own [illegible] *Synspunktet for [illegible] somhed* (Standpoint of my Literary Work).

Kiesewetter, Raphael Georg (1773-1850), a German writer on musical matters. His works on the 'Golden Age' of music in the Netherlands, his researches into the origin and nature of Arabic and of European music, and on the evolution of 'absolute' (*i.e.* secular, as opposed to mediæval church) music are of considerable importance. His chief history of music appeared in English in 1848.

Kiev, or **Kieff**: 1. A gov. of S.W. Russia, with an area of 19,676 sq. m. The country to the W. is in the form of a plateau, reaching to over 1000 ft., while in the E. lies the valley of the Dnieper. Much of the land is 'black earth,' and is cultivated, the chief products of the soil being beet

root, wheat, oats, barley, tobacco, flax, vegetables, etc. The minerals include labradorites, iron, lignite, granite, gabbro, marble, and gneiss. There are many large factories, the chief being distilleries, machinery shops, tanneries, petroleum refineries, paper mills, brick works, and tobacco factories. Orthodox Greeks preponderate, but there are a large number of Jews and Roman Catholics. Pop. 4,556,000. 2. A Russian tn., cap. of the above gov., situated on the r. b. of the Dnieper, 628 m. S.W. of Moscow. It is a beautiful town, the old quarter being built on a range of hills overlooking the low country across the river. The cathedral of St. Sophia, the oldest in Russia, is renowned for the golden cupola. The church of St. Andrew the Apostle, records the traditional spot where the apostle stood when he prophesied the existence and future prosperity of this city. The Kievo-Pecherskaya monastery, said to date from the 9th century, is visited by 250,000 pilgrims annually. The Podol is the industrial quarter of the town. It owns a university and important scientific institutions, a theological academy (1631), and a military gymnasium. The chief trade is in sugar. Pop. 468,712. *See* De Baye, *Kiev, la Mère des villes russes*, 1896, and Mukalov, *Géographie du Gouvernement de Kiev*, 1883.

Kikuyu, or **Kenia**, a region of the British East Africa Protectorate in Ukamba prov. It contains the mountain Kenia (*q.v.*). Pop. about 320,000.

Kilauea, a volcanic crater in the eastern part of the Hawaii Island, on the eastern slope of Mauna Loa, 4000 ft. above the sea-level.

Kilbarchan, a tn. in Renfrewshire, Scotland, 5¼ m. W. of Paisley. It has calico-printing and paper-making industries. Pop. of parish (1911) 7491.

Kilbirnie, or **Kilburnie**, a tn. in Ayrshire, Scotland, 17 m. W.S.W. of Glasgow. Its chief industries are chemical, iron, and steel works, cotton and linen manufs. and mining. Pop. (1911) 7618.

Kilbowie, *see* CLYDEBANK.

Kilbride: 1. East, a vil. and par. of Lanarkshire, Scotland, 6 m. S. of Glasgow. It has coal mines. Pop. (1911) 3977. 2. West, a vil. and par. of Ayrshire, Scotland, 4 m. N.N.W. of Ardrossan. Pop. (1911) 3164.

Kilburn, a suburb of London in the bor. of Hampstead, 5 m. N.W. of St. Paul's Cathedral.

Kilbye, Richard (c. 1560-1620), an English divine and Biblical scholar, fellow of Lincoln College, Oxford, regius professor of Hebrew (1610); was one of the translators of the authorised version of the Bible. He also published the *Burthen of a Loadened Conscience* (1616).

Kildare: 1. A co. in Ireland, situated in the prov. of Leinster. It is bounded on the E. by Dublin and Wicklow. It contains an extensive plain, part of which forms the Allen Bog. Its principal rivers are the Boyne, Liffey, Barrow, and Lesser Barrow. The dist. of Curragh in the centre of the county is most fertile, and affords excellent pasturage. Potatoes, oats, and barley are very extensively cultivated. Area 654 sq. m. Pop. (1911) 66,498. 2. The chief city and market tn. of K., possesses many objects of historic interest, such as the ancient cross, small chapel, and round tower. Pop. (1911) 1601.

Kilfenora, formerly a bishop's see in the archiepiscopal prov. of Cashel, Ireland. It is now included in the [illegible] of Killaloe & Clonfert, and

[illegible] ed tn. in [illegible] S.W. of Odessa. It is a thriving town, with good fisheries. Pop. 12,000.

Kilian (or **Chilian**), **St.** (*fl.* 700 A.D.), an Irish missionary bishop and apostle of Franconia, who preached to the heathen of Würzburg, and was put to death by Duke Gozbert. His festival falls on July 8. *See* J. O'Hanlon's *Lives of Irish Saints*, vol. vii., 1875-1904.

Kilima-Njaro, a mountain mass in the N. of German E. Africa, situated between Victoria Nyanza and the coast. It culminates in two peaks, Kibo (19,720 ft.), and Kimawenzi (17,500 ft.), which are both craters of extinct volcanoes. The crater of the former is 6500 ft. in diameter, and 650 ft. deep. The mountain was climbed by Capt. Johannis in 1902. *See* Johnston's *An Expedition to Kilimanjaro*, 1893.

Kilindria (ancient *Kelenderis*), a tn. of Adana vilayet, on the S. coast of Asia Minor, 125 m. from Konieh

[illegible] Ireland, is [illegible]. Its chief [illegible], and Nore, [illegible]loom Mts. [illegible] Harbour. [illegible] d from the Castlecomer basin. The climate is agreeable and mild. Cattle trading is carried on, and potatoes and turnips are largely cultivated. Area 792 sq. m. Pop. (1911) 74,821. 2. The cap., is divided into two districts, Englishto[illegible] The cathedral [illegible] 1255, and [illegible] English st[illegible] can and

exist, also the Protestant College of St. John, where Swift and Bishop Berkeley were partly educated. Pop. (1911) 10,513.

Killala, a small tn. in Ireland, co. Mayo, which dates back to the 5th century. Pop. about 500.

Killaloe, a tn. in Ireland, on the R. Shannon, 17 m. from Limerick. It was the cap. of the kings of Munster. Pop. about 900.

Killarney, a market town and favourite resort for tourists, situated in the co. of Kerry in Ireland. The Lakes of Killarney are 1½ m. from the town, and are shut in by wood-crowned mountains. The Lower Lake called Lough Leane is dotted about with wooded islands, the most important one being named Ross Is.; another isle contains the beautiful ruins of the abbey founded by St. Finian the leper. Muckross Abbey, which was built by the Franciscans about 1440, divides the Lower Lake from the Middle Lake or Torc Lake. The Upper Lake adjoins the Middle and Lower lakes by means of the Long Range, a channel 2½ m. long. Places of especial beauty and historic interest are the Macgillicuddy Reeks, the Torc and Purple Mts., and the famous gap of Dunloe. The Innisfallen ruins, Muckross Castle, and Aghado Churchare other noteworthy features.

Killiecrankie, Pass of, in Perthshire, Scotland, in the valley of the Garry, extends from Killiecrankie Station 1½ m. to Garry Bridge. On the plain at the top of the pass Dundee defeated the troops of William III. in 1689, and received his death wound.

Killigrew, Thomas (1612-83), the Elder, a dramatist, the son of Sir Robert K., vice-chamberlain to Queen Henrietta Maria, was page to Charles I. in 1633. His play, *The Parson's Wedding*, was popular before the Civil War, after the outbreak of which he resided abroad with the English court. At the Restoration he returned, and was appointed by Charles II. groom of the bedchamber. He built a theatre where Drury Lane now stands, and there produced many plays, including some of his own compositions. His works were collected and published in 1664.

Killigrew, Sir William (1606-95), an English playwright, the eldest son of Sir Robert K. He was gentleman-usher to Charles I., and had command of a troop which guarded the king's person during the Civil War. He published three plays, viz. *Selindra*, *Pandora*, *Ormasdes* (1665), and various pamphlets concerned with the unsuccessful attempts to drain the Lincolnshire fens (1647-61).

Killingly, a tn. in Windham co., Connecticut, U.S.A., 36 m. from New London. Pop. (1910) 6564.

Killingworth, a tn. in Northumberland, 6 m. N.N.E. of Newcastle. Has coal mines. Pop. (1911) 8500.

Killiz, Killis, or Kills, a tn. of Turkey in Asia, 34 m. from Aleppo. It is noted for its olive groves which produce very fine oil. Pop. 20,000.

Killyleagh, a seaport on Lough Strangford, Ireland. There is an export of agricultural produce, and the principal industry is the manuf. of linen. Killyleagh Castle is in the vicinity. Pop. (1911) 4000.

Kilmainham, the western suburb of Dublin city, co. Dublin, Ireland. It contains the county gaol in which Parnell, O'Brien, and other political prisoners were incarcerated. Pop. 6000.

Kilmarnock, a municipal burgh in the co. of Ayrshire, Scotland, is situated on Kilmarnock Water, a tributary of the Irvine, and lies 24 m. distant from Glasgow. The Burns Memorial, a museum in Kay Park, contains several MSS. of the poet. K. is noted for its woollen manufs. Pop. (1911) 34,729.

Kilogram, or Kilogramme, a French measure of weight, which is equal to 1000 grammes, *i.e.* about 2·2046 lbs.; 1000 Ks. make a metric ton, *i.e.* 2204·6 lbs. *See* METRIC SYSTEM.

Kilpatrick, New or East, or Bearsden, a tn. and residential suburb, 5 m. from Glasgow. Pop. (1911) 13,798.

Kilpatrick, Old or West, a tn. in Scotland on the R. Clyde, 10½ m. N.W. of Glasgow. It is supposed to have been the birthplace of St. Patrick, [illegible] Roman [illegible] Pop.

[illegible], a seaport on the estuary of [illegible] in grain and timber, as well as a large export of peat. There is a good harbour. Pop. (1911) 4200.

Kilsyth, a tn. of Stirlingshire in Scotland, 13 m. distant from Glasgow. Coal mining and iron works are the chief industries. William Chalmers Burns inaugurated a remarkable religious revival in 1539. Pop. (1911) 8106.

Kilt, *see* HIGHLAND DRESS.

Kilwa-Kisiwani, a seaport of German East Africa, on an island 150 m. S.E. of Dar-es-Salaam. The island contains Arab ruins, and the remains of a fortress of the Portuguese. There is a deep, sheltered harbour. Pop. about 650

Kilwa-Kivinje, an important seaport, 18 m. from Kilwa-Kisiwani. It is a starting point for caravans to Lake Nyasa. Pop. 8000.

Kilwinning, a municipal burgh of Ayrshire, in Scotland, situated on the r. b. of the Garnock, and is about 25 m. S.W. of Glasgow. The town derives its name from St. Winnin who lived there in the 8th century. A famous abbey was raised to his memory by Hugh de Morville in 1140.

Kimberley: 1. The cap. of Griqualand West, Cape of Good Hope, S. Africa, and is the most important diamond-mining centre of that country. The town is built round about the mining camps, which are scattered about in different directions. Diamonds were first discovered by diggers on the farms of Du Toit's Pan and Bultfontein in 1870. Further discoveries of diamonds were made in 1871 at De Beers and Colesberg Kopje. Ultimately the mines were placed under British control, when the whole diamond market became vested in one company, the De Beers Consolidated Mines, Limited. The annual output amounts to about £4,500,000 annually. K. holds an important position owing to its situation. Railway communication has been opened up with K. between Cape Town and Johannesburg; the town also forms the point of departure for travellers making their way into the interior. The climate is salubrious, and the soil is fertile, the town being provided with a good water supply from the R. Vaal. There are fine law courts, a town hall, and public gardens. The town underwent a siege during the Boer War, 1899-1900. Pop. 35,000 (14,000 whites). 2. Goldfield in the Kimberley dist., Australia, 300 m. S.E. of Derby. Area 47,000 sq. m.

Kimberley, John Wodehouse, first Earl of (1826-1902), was born at Wymondham, Norfolk. Adopting the Whig politics he held office in Lord Palmerston's first and second government, and was British minister at St. Petersburg, 1856, and Under-Secretary for India, 1864, becoming Lord-Lieutenant of Ireland the same year, and in consequence of the work of pacification which he accomplished while holding that office was created Earl of Kimberley. In 1868 he was Lord Privy Seal in Gladstone's first administration, and in 1870 succeeded Granville at the Colonial Office. It was during his tenure of this post that the grant of complete self-government was given to the Boers, after the defeat and death of Sir George Colley at Majuba Hill, 1881. In 1882 he was transferred to the India Office, and in 1891 was leader of the Liberal party in the House of Lords.

Kimchi, David (c. 1160–1235), a Jewish commentator, born at Narbonne in France, where he spent his life. His great work was his *Sefer Miklol*, which consists of two parts, the *Miklol*, or grammar, and the *Sefer Hashorashim*, or lexicon. He also wrote commentaries on portions of the Scriptures of which his commentary of the prophets is the best though that on the Psalms is interesting. But his fame rests upon his grammar and lexicon, which have formed the basis of all subsequent Hebrew grammars and lexicons.

Kimmeridge Clay, in geology, the lowest series of the Upper Oolites. The upper part of the formation consists of dark blue bituminous shales, and the lower part of clays and shales in which calcareous concretions are found. The clay takes its name from the village of Kimmeridge in Dorsetshire; it is to be seen continued from the Dorset coast into Wiltshire, and thence along the Jurassic outcrop into Yorkshire. The economic products of

bricks, tiles, etc. Fossils are abundant in both series of the formation, including remains of dinosaurs, plesiosaurs, and ichthyosaurs.

Kimpolung, a tn. of Bukovina, Austria, on the Moldava, situated about 55 m. S.W. of Czernowitz. Pop 9254.

Kin, Next of, or 'nearest of consanguinity,' in the same degree of relationship, are those among whom is distributed the personal property of a person who dies wholly or partially intestate as to that property. As a general rule the right to take out administration to the personal effects of an intestate follows the beneficial right to the property. (For the order in which the representatives take, *see under* DISTRIBUTIONS, STATUTES OF.) A husband has the exclusive right of taking out letters of administration to his wife's estate, and if he dies without doing so, the wife's next of kin may take out administration, but they will hold the beneficial interest in the property for the husband's personal representatives. Where none of the kin will take out administration a creditor is entitled to do so. A gift whether in a deed or will to the 'next of kin,' whether *simpliciter*, or with reference to the Statutes of Distributions, or to intestacy, does not include a wife or husband. The phrases 'next of kin,' and 'next of kin according to the statutes,' as frequently used in gifts under deeds and will, are to be distinguished. The former is strictly confined to the literal meaning of the words, but the latter includes those who, not actually

next of kin, represent deceased next of kin. *See* on this Goodeve's *Personal Property*. *See also* DISTRIBUTIONS, STATUTES OF; INTESTACY.

Kinburn, an ancient fortress in the gov. of Taurida, Russia, situated on the sandbank which divides the Dnieper from the Black Sea. It at one time belonged to the Turks, but at the peace of Kuchuk-Kainardji, 1774, passed into the hands of Russia. It was bombarded in 1855, and razed in 1860.

Kincardine, or Penetangore, a tn. of Bruce co., Ontario, Canada, situated on Lake Huron. It has iron-foundries and salt works. Pop. 2000.

Kincardineshire, or The Mearns, a maritime co. in the E. of Scotland, with an area of 381 sq. m. The surface is mountainous, the highest peak being Mt. Battock, 2555 ft., but in ' N. the county slopes into the val of the Dee, and in the S. into Howe of the Mearns, which is a continuation of Strathmore. The tainous region is occupied by . moors, but the valley of the D Howe of the Mearns, and the sea coast, which is the most fertile part, are devoted to the growth of crops, principe ' and pot.. carried salmon There is haven.

Kinchinjúnga, *see* KANCHANJANGA.

Kin-chow, a tn. of Manchuria, on the railway from Kharbin to Peking, and near the Gulf of Liaotung. Pop. about 25,000.

Kindergarten, the name chosen by Friedrich Froebel to describe the 'play-school' which he evolved as best adapted for the all-round development of young children up to the age of seven or eight. The word 'kindergarten' is the German for the 'children's garden,' and thus recalls that analogy, which its inventor never weary of drawing, between growth of a child and of a plant. child,' he would say, 'is a plant to trained, not a piece of clay to be moulded by the external will of the teacher. Its growth, like a plant's, is from the inner to the outer world.' Imbued with the ideals of his enlightened predecessor, Pestalozzi, Froebel elaborated a system of organised games calculated to satisfy the child's inborn love of play and fellowship, and at the same time to exercise and develop its sensibilities and healthy activities, and to teach it, all unconsciously, something of its duties towards Nature, Man, and God. For the realisation of these aims he relied partly on what he called the six 'gifts.' The first was six coloured woollen balls; the second, a wooden ball, roller, and undivided cube; the third, a cube divided into eight smaller cubes; and the rest, cubes variously divided so as to teach symmetry and design, besides the elements of arithmetic. Like the ancient Greeks, Froebel was fully alive to the value of rhythm and music in education, and encouraged the training of the ear and voice. He appreciated story-telling as a natural and helpful means of est, and, above ith the need of upon the solid basis of first-hand experience or intuition.

In the Ks. of to-day the children are happily and busily employed with bead-threading, paper-folding and cutting, stick-laying, plaiting, sand- lay and plaste- cane-weaving. nd gymnastics, moreover, are skilfully interwoven look after.

Froebel was the first to recognise the responsibilities of the teacher who out his system, ocated a training hat necessary to for the certificate int Board of the the Kindergarten Association, Manchester. The examination for the Elementary Certifi- natural science; class teaching, music and singing, whilst no one can win the Higher Certificate without some knowledge of hygiene, two other sciences, geometry, and the theory, history, and practice of education. Froebel taught, moreover, that the teacher could not hope to be com- e knew ogy and general, of each child in particular.

The principles of Froebel met with no very whole-hearted appreciation in his country, but Germany does not stand alone in rejecting her own prophet. Ks. flourish bestin America; the first was established at St. Louis in 1873, and there are now free Ks. in Boston, New York, San Francisco, etc., besides a number of training colleges. Pioneer work in America was done by Miss Peabody, Dr. Barnard, Dr. Adler, and Mrs. Quincy Shaw; in Italy by Madame Salis-Schwabe; and in England by Miss Shirreff, for some time president of the Froebel Society, Madame de

Portugall,
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Michaelis,'
in 1874.
Switzerlar
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culture fo
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Germany, England, France, A
Hungary, and Canada, it owes
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s be examined in the light of
l knowledge.

tiring labour and devotion of Dr. Maria Montessori, who in 1908 opened her schools, known as the 'Casa dei Bambini,' for the small children from certain tenement houses in Rome. As early as 1898 she was appointed director of the Scuola Magistrali Ortofrenica, an elementary school, that is, for the mentally deficient, and so wonderful was the response which the intelligence of these backward children made to her teaching, that she was anxious to apply her principles to normal children. The experiment has been tried in the Casa dei Bambini, the result being that the little scholars of Dr. Montessori learn to read and write and to

of her schoolroom. Already the 'Montessori system' is making headway in Great Britain and America.

Kinder Scout, a mountain in the co. of Derbyshire, England, and the highest point in the Peak district. Altitude 2088 ft.

Kinderscout Grit, in geology, a variety of the millstone grit overlying the carboniferous limestone. It takes its name from Kinder Scout, a summit of the Peak district. The formation consists of shales, grits, and sandstones, and is coarser and harder than the millstone grits in ge
not yielding such good
as the other sandstor
shire, it is quarried for such purposes as foundations, etc., where its disadvantages as regards dressing need not be apparent.

Kinematics, a branch of the science
chanics in which motion is con-
to any force.
of force is
consider it as
es change of
motion, or
momentum.
Momentum is proportional to mass

is measured by the number
nits passed over in a unit of
time; it is therefore proportional to the space traversed by a moving particle and inversely proportional to the time occupied in traversing it. This is expressed by the formula $v=s/t$, or $s=vt$, where s represents space, or length, v represents velocity, and t represents time, in their appro-
priate me
rate of ch
has an infi
and that
per sec. e
the end of successive seconds will be 7, 9, 11, 13 . . . ft. per sec. The final velocity at the end of any period may be measured by the relation $v=V+ft$, where V = initial velocity in, say, ft. sec., f = acceleration in ft. per per sec.—that is, the number of ocity units added on per second— t = number of seconds. The velocity during the period, if eleration be uniform, may be s the velocity of the middle of the period; that is, it will be the mean of the initial and final velocities. Average velocity therefore $=\frac{V+v}{2}$; that is $(V+V+ft)\div 2$, or, $V+\frac{1}{2}ft$. Now the length traversed by a body moving with uniformly accelerated velocity would be the same as if it moved uniformly with the average velocity throughout the period. Therefore, s
we have, ir
or $s=Vt+\frac{1}{2}f$
get $2fs=2V$
$v=V+ft$, we get $v-$
t^2, whence by subtraction
e the result $v^2-2fs=V^2$, or $v^2=V^2+2fs$. We now have certain relationships of space and time expressed concisely by formulæ, which may be recapitulated thus: for uniform velocity, $s=vt$; for uniformly accelerated velocity, $v=V+ft$, $s=Vt+\frac{1}{2}ft^2$, $v^2=V^2+2fs$.

Kinematics also deals with the
in which motion takes place,
the resultant
ssessed by a
of course, is

relative; and it may be the purpose of a problem to determine the motion of a body with reference to a certain body or surface, as, for instance, the surface of the earth.

Kineshma, a tn. in the gov. of Kostroma, Russia, about 56 m. S.E. of Kostroma, on the R. Volga. Pop. 8000.

Kinetics, a branch of the science of mechanics which treats of the action of forces in producing or changing the motion of a body. If the forces are so balanced that the body remains in a position of rest or equilibrium, the consideration of the conditions is a part of *statics*, or the science of equilibrium of forces. The fact of actual motion is not considered by modern

the present day is to consider all such problems under the heading of *dynamics*, or the science of force. It is convenient, however, to treat of certain particular deductions from Newton's laws of motion under the heading of K.

Kinematics (*q.v.*) treated of motion without regard either to the body moving or the cause of change of motion. K. introduces the considerations of mass and force. Newton's first law, which may be concisely stated as that change of motion is caused by forces acting upon the body, gives us, therefore, a definition of force. The law may be otherwise stated as 'a material body possesses inertia.' The second law states that the change of motion is proportional to the impressed force and takes place in the direction of that force. By motion is meant momentum, which is measured by the product of the body's mass and its velocity. Force is measured, therefore, by consideration of the mass of the body and the acceleration or change of velocity, induced by the force. This gives us the fundamental relationship of K., which may be concisely stated thus: $P = mf$; that is, force = mass × acceleration. The unit of force is called the *poundal*, and is defined as that force which, acting on a mass of 1 lb. for one second gives it an additional velocity of 1 ft. per second. A force may not cause actual motion, but in any case it tends to do so. If the point of application of the force moves in the direction in which the force acts, the force is said to do *work*. Work is measured by the distance through which the point of application moves multiplied by the measure of the force. The unit of work is that amount of work done by a force of one poundal by moving its point of application one foot; it is called a foot-poundal. A body may have the capacity of doing work by virtue of the momentum it possesses, or through its position or configuration; it is then said to possess *energy*. Energy possessed by virtue of motion is called *kinetic energy;* that possessed by virtue of the position of a body, as in a weight supported above the ground, or through the position of its parts, as in a coiled watch spring, is called *potential energy*. The former

he equation

is measured

by its distance in feet above the ground. That is, potential energy = Wh, but weight is proportional to the mass and the acceleration due to gravity; hence potential energy = mgh.

Kinetoscope, *see* CINEMATOGRAPH.

King (A.-S. *cyning*, man of the tribe, or chief), the man who nominally holds supreme power in a state. A reigning queen has equal power, but not a queen-consort. *See* GOVERNMENT, PARLIAMENT, SOVEREIGNTY.

King: 1. An island off Australia, lying to the N.W. of Tasmania, in Bass Strait. 2. Or Springhill, a vil., York co., Ontario, Canada, about 21 m. N. of Toronto. 3. A co. in Washington, U.S.A., bounded on the W. by Puget Sound and Admiralty Inlet. Cap. Seattle. Pop. (1910) 284,638.

King, Charles (1687-1745 or 1748), a composer of church music, born at Bury St. Edmunds, was for most of his life connected with the choir of St. Paul's. His music is of no remarkable interest, but his services in F and C, and a few of his anthems, are still performed occasionally.

King, Edward (1829-1910), Bishop of Lincoln, educated at a private school, whence he passed to Oriel College, Oxford. He was ordained deacon in 1851, priest in 1855, and in 1863 became principal of Cuddesdon Theological College, where he exercised an enormous influence over the ordinands studying under him. In 1873 he became professor of Pastoral Theology at Oxford, and in 1885 passed to the bishopric of Lincoln. Here he speedily became as great a force as he had been elsewhere, and his work continued tranquilly, except for the stir caused by a fruitless attempt by to secure his se of certain on March 8.

King, Henry (1591-1669), Bishop of Chichester and poet, educated at Westminster School and Christ Church, Oxford. In the year that he was made Bishop of Chichester (1642) he was taken prisoner by the Parliamentary army, but was later released. He was a personal friend of Charles I. He published a metrical translation

of the Psalter (1651) and some poetry. In one of his poems he makes a reference to *Eikon Basilike* as the work of the king. He was restored to his benefice at the Restoration, and he died at Chichester. He was one of the executors of John Donne.

King, Peter, first Lord (1669-1734), an English lawyer and Whig politician, a relative of J. Locke. He became recorder of London, and was knighted (1708), Baron King of Ockham, and Lord Chancellor (1725-33). He w[illegible] *The P[illegible] of the* Campbell, *Selections from Speeches of Lord King; The Judges of England*, by Foss (1848-64) and Welsby (1846).

King, Sir Richard (1730-1806), an admiral, born at Gosp[illegible] entered the navy in 1838, [illegible] served in the Mediterranea[illegible] Indies, was promoted to be lieutenant in 1746. In 1756 he was in command of the landing party at the capture of Calcutta and Hoogly, and distinguished himself in 1782 in the action off Sadras, after which he was knighted. In 1787 he was promoted to be rear-admiral, in 1792 was created a baronet and appointed governor and commander-in-chief at Newfoundland, and in 1795 was made admiral.

King, William (1663-1712), a learned English satirical and miscellaneous writer and poet, supporter of the Tory and High Church party. From 1701-8 he held various offices in Ireland. His works include *Animadversions upon the Pretended Account of* R. Moles- *Transactioneer . . .*, 1700, a satire on the Roy. Soc.; *Dialogues of the Dead . . .*, 1699, satirising Bentley; *Vindication of Dr. Sacheverell . . .*, 1711; *A Journey to London . . .*, 1699. See *Remains . . .* (Brown's ed. 1732); *Orig. Works in Prose and Verse* (Nichol's ed. with 'Memoir,' 1776); Johnson, *Lives of the Poets*.

King, William Rufus (1786-[illegible] Vice-President of the U.S.A., in Sampson co., N. Carolina. E[illegible] admitted to the bar in 180[illegible] entered Congress in 1810. He sented Alabama in the Senate from [illegible] the United States.

King Alfred, the name of an armoured cruiser of the British Navy. It is a vessel of 14,100 tons, with a speed of just over 23 knots an hour, and was launched in 1901.

King and Kingship, *see* SOVEREIGNTY.

King Charles's South Land, the largest island of Tierra del Fuego, S. America. It is generally level except in the W., where the highest point, Mt. Sarmiento, reaches a height of nearly 7000 ft.

King-crab, or *Limulus*, an arachnid belonging to the order Xiphosura, and is also called the horsefoot-crab on account of its peculiar outline. Formerly *Limulus* was classed as a crustacean, from which stock it, in common with all other arachnids, has no doubt sprung, but it differs in the absence of appendages corresponding to the first antennæ, and in the division of the body into parts, the anterior portion being composed of [illegible] The body of the K. [illegible]cephalothorax, the caudal spine; it is covered with a smooth, firm cuticle, having a glossy surface, and the under parts have small hairs. A distinct longitudinal ridge, called the camerostome, lies in front of the mouth, which is cushion-like and from which spring the seven appendages of the cephalothorax. There is an olfactory organ near the mouth; the median eyes lie on either side of a median spine, and the lateral eyes consist of a single layer of hypodermic cells. The Ks. are almost the only arachnids which retain the power of living under water; they are found from 2 to 6 fathoms beneath the surface, where they burrow in the mud or sand; their food consists of bivalves and annelids.

King Edward VII., a British battleship, launched at Devonport in 1903. It has a displacement of 16,350 tons, a length of 425 ft., and a speed of from 18½ to 19¼ knots. There are several ships of this class.

King Edward VII. Land, a region in the Antarctic, lying to the E. of Victoria Land, about lat. 76° S. and 152° 30′ W.

Kingfishers are members of the [illegible] of coraciiform [illegible] their peculiar [illegible]olouring. The [illegible] large, and the [illegible] keeled; the tail and wings are relatively short, and [illegible] only slightly de[illegible]dæ are some[illegible]nto the sub-families [illegible]wood-K., and Alce[illegible]r-K. The common [illegible]*lcedo isipida*, belongs to the latter group; it has greenish-blue plumage, with bright blue head and tail, and white patches at the side of the neck; the bill is black with orange tinted base. It is generally found by shady forest streams, sitting

on a branch overhanging the water, or hovering with vibrating wings in search of the fish which forms its principal diet; having sighted the prey it dives perpendicularly, with folded [illegible] with the morsel or tree-branch K. feed also on insects and small crustaceans, in search of which they occasionally visit the seashore. Their eggs are usually deposited on a bed of fish-bones, concealed in holes in river banks, in tree stumps, or in old walls.

King George Sound, an inlet of Western Australia, containing Princess Royal and Oyster harbours, and [illegible]

[illegible]).

[illegible] of Forth, about 3 m. S.S.W. of Kirkcaldy. The inhabitants are engaged in shipbuilding and in the manuf. of glue. It is also a watering-place, and has golf links. Pop. (1911) 1549.

Kinglake, Alexander William (1809-91), an historian, was called to the bar in 1837. Two years earlier he had travelled in the East, and in 1844 he published his experiences in *Eothen, or, Traces of Travel brought Home from the East*. His interest in military history, to the study of which he had devoted much time, took him, in 1845, to Algiers, where he accompanied the flying column of [illegible] Arnaud, and, later, to the Crime the beginning of the war. The volumes of his *Invasion of the Crimea* appeared in 1863, and the eighth in 1887.

Kinglet, *see* GOLDEN-CRESTED WREN.

Kingo, Thomas (1634–17 Danish poet, born in Iceland studied theology, and finally bishop of Fünen in 1677. H posed various kinds of poems, but his fame rests upon his *Aandelige Sjungekor*, the first part of appeared in 1674. These psalm canticles are still sung in the D churches, and have done mu develop the language.

King-of-Arms, or King-at-Arms, an officer [illegible] the herald and have *See* HERALD.

King Paradise Bird, *see* BIRD OF PARADISE.

Kings, The First and Second Books of, were anciently counted as one book, forming the fourth in the series of the earlier prophets. They are subdivided in the Septuagint, Vulgate, and modern Hebrew Bibles, being known in the Vulgate as the Third and Fourth Books of Kings (*see* subtitles in the A.V.). The division is not a very necessary one, and it is difficult to make any clear separation between Samuel and Kings. Here, however, the division is more useful, since it emphasises the fact that Solomon's reign inaugurated a new epoch, a period at first of great glory and then of decadence, while the previous period is that in which the kingdom was built up. Samuel and Kings were compiled from the same sources, and probably underwent successive redactions by the same hands. The books are drawn from a variety of sources. The principal of these are: 1. The [illegible] the Book o' [illegible]ioned i [illegible]ook of the [illegible] of Judah. These are frequently referred to, but their exact nature is not known. 2. The Book of Jashar and other popular and vivid collections of tales. 3. Certain official records of the temple, which furnish details about the dedication of the temple and its later history. The main interest of the last redactor lay in this religious developmer[illegible] definitely [illegible] early kings the standar[illegible]

King's Bench Division, one of the three divisions of the High Court of Justice, the other two being the Chancery Division (*see* CHANCERY, [illegible]bate, Divorce, [illegible] Theoretically [illegible] jurisdiction in all matters both of common law (*q.v.*) and equity (*q.v.*); but in practice the K. B. D. deals principally with common law actions of debt (*q.v.*) and [illegible]overy of land [illegible]ods (*see also* [illegible] for writs of [illegible]idamus (*q.v.*), [illegible]ppeals from county courts and quarter sessions, [illegible] (*see* CRIMINAL AP-[illegible]venue cases, and [illegible]he registration of [illegible] business of the [illegible]icted by masters, and actions involving complicated questions of account are usually re-[illegible] to an official referee (*see also* [illegible]ERCIAL COURT). The Court of [illegible]s Bench, as it was once called, dates from about 1178, as a distinct tribunal from the *Curia Regis*, Henry II. reducing the legal staff of the King's Council to five judges, who were to sit *in banco* (bench) and nominally *coram rege*. Formerly the court followed the king, but from the time of Richard II. it became fixed at Westminster Hall, and in recent times at the Strand, the king having from the early Tudor period ceased to preside in person even in those 'difficult cases' which were supposed to be

reserved for royal hearing. James I., however, insisted sometimes in presiding over his courts, but the Stuart violations of law or constitutional convention were unique. The old King's Bench Court always had a crown side and a plea side. In the former it dealt with criminal and quasi-criminal matters, generally obtaining cognisance of purely civil suits through writs which alleged trespass *vi et armis* (by force and arms), whether force had been actually used or not (*see also* FICTIONS). Its wide jurisdiction in applications for writs of *certiorari*, *mandamus*, and other *crown paper* cases is derived from this criminal jurisdiction (*see also* CROWN CASES RESERVED). Its present revenue jurisdiction is a legacy from the defunct Exchequer Division (*q.v.*). The Lord Chief Justice of England is the head of the K. B. D., since King's two judges 1) do not necessarily constitute a permanent increase.

Kingsbridge, a seaport and market tn. in the co. of Devonshire, England, situated S.S.W. of Exeter. Pop. (1911) 3049.

Kingsburgh, John Hay Athole Macdonald, Lord (*b.* 1836), Lord Justice-Clerk of Scotland since 1888, was born in Edinburgh. He became an advocate in 1859 and Q.C. in 1880. From 1876-80 he was Solicitor-General for Scotland, and Lord-Advocate from 1885-89. He has invented a holophote course indicator for preventing collisions at sea, a military field telegraph, a heat thermotelemeter, and other and it was ith the Post-master-General and the government that postcards were introduced into Great Britain. His publications include: *Common Sense on Parade; A New Form of Infantry Attack; A Treatise on the Criminal Law of Scotland*, *Prisoners on Oath*, *Electricity in of Motor in* 1905; *Roads*.

Kingsclere, a par. and tn. of Hampshire, England, situated on a small tributary of the Emborne, 6¼ m. S.E. of Newbury. The name indicates that there was a royal residence here in Anglo-Saxon times. Horses are trained in the neighbourhood, and brewing and malting are carried on. Pop. (1911) rural dist. 8842.

King's College, Cambridge, was founded and endowed in 1441 by King Henry VI. for a provost and seventy scholars, and under the founder's statutes every vacancy had to be at once filled by the admission of a scholar from the sister foundation of King Henry at Eton. But in 1861 open scholarships were started, and undergraduates not on the foundation were admitted to the college. All students, with a few exceptions, read for an honours degree. Its society at present consists of a provost, forty-six fellows, and forty-eight scholars. This college has some unusual privileges: it was exempt from the jurisdiction of the Archbishop of Canterbury, the Bishop of Ely, and even of the university, in matters scholastic, and until 1857 members of K. C. could take a degree without passing the university examinations. The College Chapel is very fine, and contains some of the best glass and

King's Coll
of the London
founded in 1828, its constitution being amended by an Act of parliament in 1882. It is situated in the Strand, and affords instruction in theology, literature, science, engineering, and medicine for men students over the age of sixteen; but there is also a civil service department and an art school. Its library has over 30,000 vols., chiefly of a scientific character, and the museum contains King George III.'s collection of philosophical instruments and mechanical models, as well as Babbage's calculating machine. In connection with the college is a branch for the higher education of women, and a school for boys. The latter and the hospital are shortly to be moved to South London.

King's (or Queen's) Counsel, those barristers of the English bar who wear silk gowns and sit 'within the bar.' Hence, colloquially called 'silks.' They take precedence of 'juniors,' *i.e.* all who wear stuff gowns and sit outside the bar. Formerly, patents of precedence were granted to K.C. and Q.C. by the crown, but that custom has been in disuse for the last thirty years. K.C. rank next in precedence after the leaders of the bar, the Attorney-General and
are called K.
for no other re.
their full sty
counsel learne
may not hold briefs in any cause against the crown without special licence. It is the almost inviolable etiquette of the profession that K.C. should never appear with a brief in a civil action without a 'junior,' the only exception to this rule being when a 'leader,' or K.C., is retained for a plaintiff suing *in forma pauperis* (*q.v.*). Even in criminal cases it may be stated as a general rule that a leader cannot hold a brief without a junior.

Chancery 'silks attach themselves to one particular judge of the Chancery Division and so gain a monopoly of the work there. Occasionally they become what is termed 'specials,' when they will undertake to go into any other court for a special fee of fifty guineas or more. The 'leader' has the conduct of the case, but the junior settles the pleadings, writes the 'Advice on Evidence,' and settles interrogatories or other documents in the interlocutory proceedings. In court the leader frequently invites the junior to examine the first witness. Very often it happens that the junior conducts the case almost throughout, the leader being engaged elsewhere.

King's County, an inland co., prov. of Leinster, Ireland, bounded on the W. by the R. Shannon. The surface on the whole is flat, the N. part being occupied by the Bog of Allen, but the Slieve Bloom Mts. lie along the border between K. C. and Queen's County,

[illegible]

chiefly used for sheep. Oats, barley, rye, potatoes, and turnips are grown, and cattle, sheep, pigs, and poultry bred. The chief towns are Tullamore *(co. tn., pop. 4500) and Parsonstown* or Birr. The county sends two members to parliament, and has an area of 772 sq. m. and a pop. (1911) of 56,769.

King's (or Queen's) Evidence. Where one of several persons jointly charged with a crime gives evidence so as to secure the conviction of his accomplices, such evidence is called K. E. It is customary for the commit[illegible]ere the evidenc[illegible] weak, to hold [illegible] to any co-defendant who can and will give such evidence as will supply the want of sufficient evidence for the prosecution. At the trial, however, it is necessary to obtain the sanction of the judge to such a course. It is to be observed that counsel for the prosecution may, where necessary, obtain the *consent* of the judge at the trial to put one of the co-defendants in the box, and thus secure his acquittal, even without any suggestion of such a course from the committing magistrate. In any case, K. E. is to be looked at with suspicion. It is the practice, though not legally necessary, to require the evidence of an accomplice to be corroborated in some material part by independent evidence, and such confirmatory evidence ought to go far enough to identify the prisoner so turning K. E. with those of his accomplices who remain in the dock. *See* Harris's *Principles of Criminal Law;* Russell *On Crimes;* Archbold's *Practice.*

King's Evil, an old and popular name for scrofula. The origin of the term lies in the superstition that a royal personage was endued with healing power directed particularly to this form of tuberculosis. The power was claimed by the royal houses of England and France, and was attributed to the use of 'chrism,' or oil of peculiar sanctity, in the coronation ceremonial. From the time of Edward III. the custom of touching afflicted persons was maintained until the time of the Stuarts; under the Hanoverians the actual custom became obsolete, although the Stuart pretenders practised it in their exile and during their invasions of this country. The medical term for scrofula is *tuberculous lymphadenitis.* It is characterised by enlargement of the lymphatic glands of the neck, accompanied by the formation of tuberculous matter, which may eventually lead to suppuration. *See* Scrofula.

Kingsford, **William**, (1819–98), *an* historian, born in London. At the age of seventeen he enlisted and went to Canada with his regiment, but returned home in 1840. He qualified as an engineer at Montreal, and worked *in connection with the Grand Trunk* and other railways, and in 1872 was appointed dominion engineer in charge of the harbours of the great lakes and the St. Lawrence, a post he held until 1879. After this he devoted himself to the compilation of his *magnum opus*, a *History of Canada*, the first volume of which appeared in 1887, the tenth and last in 1898.

Kingsley, **Charles** (1819–75), a novelist, was [illegible] lege, London, [illegible] Cambridge. [illegible] and in 1842 became curate, and two years later rector of Eversley, Hampshire. In 1859 he was appointed one of the queen's [illegible] and in 1873 [illegible] canonry of [illegible] younger days [illegible] Maurice in t[illegible] movement, and it was his interest in the poor and the working classes that led him to write *Yeast*, 1848, and *Alton Locke*, 1850, in which books, with a virile pen, steeped, however, [illegible]

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life in the 5th century at Alexandria

in the days when the Christian Church and the Roman empire were struggling for mastery. *Westward Ho*, 1855, his most popular work, is a stirring story of Elizabethan heroes, and it introduces the fight with the Spanish Armada. *Two Years Ago*, 1857, is a story of the Crimean War. He published the delightful *Water Babies* in 1863, and, subsequently, other books. He also wrote poetry, and some of his verses have the true poetic ring, notably *The Three Fishers*, *The Tide Wave*, and the well-known *When all the world is young, lad.* K.'s power of characterisation was weak. His characters are either lay figures or unoriginal, and when original, they are usually exaggerated. His one outstanding creation is Miriam in *Hypatia*. He had a great command of language, and his scene-painting is admirable. In few English authors can there be found finer pictures than are contained in his books, whether of English landscape, as in *Yeast*, or of wretched hovels, as in *Alton Locke*, of Alexandria and the desert, as in *Hypatia*, or of the downs of Devonshire, and the solitude of the great S. American forest which Amyas Leigh and his followers traverse, as in *Westward Ho*, or of the fenlands, as in *Hereward the Wake*. K.'s daughter, *Mary St. Leger Kingsley*, who married William Hamson, is well known as a novelist under her pen-name of Lucas Malet. Her principal stories are: *The Wages of Sin*, 1891; *The Carissima*, 1896; *The Gateless Barrier*, 1900; and *The History of Sir Richard Calmady*.

Kingsley, Henry (1830-76), a novelist, a brother of Charles K., went to the Australian goldfields in 1853. After his return five years later, he began to write novels, the first of which, *Geoffrey Hamlyn*, appeared in 1859. From 1864 he edited the *Edinburgh Daily Review*, and acted as war correspondent for the paper during the conflict between France and Germany (1870-71). His masterpiece is *Ravenshoe*, 1861.

King's Lynn, Lynn Regis, or Lynn, a municipal and parl. bor., market tn., and seaport of Norfolk, England, situ-

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acres in extent; there are two docks, and good roadsteads between them and the Wash. The mussel fishery is important. There are boatbuilding yards, manufs. of sails and rope, iron foundries, corn mills, and breweries. Pop. (1911) 20,205.

Kingsmill Islands, *see* GILBERT ISLANDS.

King's Mountain: 1. A banking tn. of Cleveland and Gaston cos., N. Carolina, U.S.A., about 33 m. from Charlotte. It has cotton-mills and is the seat of the Lincoln Academy. Pop. (1910) 2100. 2. A mountain ridge between N. and S. Carolina, where the English and Loyalists, under Ferguson, were defeated by the American backwoodsmen, led by Campbell, Shalby, and others (1780). *See* Draper, *King's Mountain and its Heroes*, 1881; M'Crady, *South Carolina in the Revolution, 1775-80*, 1901.

King's Norton, a par. and tn. of Worcestershire, England, 5 m. S.W. of Birmingham. There are manufs. of paper, screws, chocolate, cocoa, etc., and metal rolling mills. Bourneville, the model village, lies within the parish. Pop. (1911) with Northfield, 81,163.

King's Printers are those who are entitled to the special privilege of being allowed to print any, or even all, of the books in which the crown enjoys copyright. They also print copies of private acts, proclamations, orders in council, etc. They are appointed by patent for the three kingdoms, England, Scotland, and Ireland, and the custom dates back to the 16th century, the first K. P. probably having been Grafton in 1547. Another famous one was Eyre in 1767, the founder of the firm of Eyre & Spottiswoode, His Majesty's printers, which has several times received the patent.

King's Proctor represents the crown (*q.v.*) in admiralty and matrimonial causes. The Treasury solicitor holds the office at the present day, and that functionary is generally a barrister. He intervenes to stop decrees *nisi* in divorce being made absolute on the ground that all the material facts have not been before the court, or where he detects collusion, or at any stage of divorce proceedings where it would be against morality to dissolve the marriage tie. He has the right to see letters, briefs, and all other documents in divorce cases whether privileged or not (*see*

[illegible] judge has dissolution

or nullity suit to order all necessary papers to be sent to the K. P. that the latter may, under the direction of the Attorney-General, instruct counsel to argue any point in the case which the judge thinks ought to be fully argued. The court may order the parties or any of them to pay the costs of intervention.

King's Remembrancer, *see* REMEMBRANCER.

Kingsthorpe, a par. and vil. 1½ m. from Northampton, England. Pop. (1911) 14,000.

Kingston: 1. A seaport and the cap. of Jamaica, West Indies,

situated in the S.E. of the island in the co. of Surrey. A disastrous earthquake occurred in January 1907, when nearly 2000 lives were lost. Pop. 40,000. 2. A city of Ontario, Canada, situated in Frontenac co., on the N.E. of Lake Ontario at the mouth of the Cataraqui R. It has considerable steamboat communication with ports on the St. Lawrence, the Rideau Canal, the Bay of Quinte, etc. There are shipbuilding yards, locomotive works, factories, etc. It is the seat of a Roman Catholic bishop and also a great educational centre. Pop. 18,000. 3. A city of New York, U.S.A., and cap. of Ulster co., situated on the Hudson R. Its chief industry is the manufacture of tobacco and cigars; boatbuilding, cement works, brickyards, are other industries, and stone is quarried in the neighbourhood. Pop. (1911) 25,908. 4. A bor. of Pennsylvania, U.S.A., in Luzerne co., situated on the r. b. of the Susquehanna R. The manufactures are silk goods and hosiery, and there are railway works and machine factories. Coal is extensively mined in the neighbourhood. It is the seat of the Wyoming Seminary. Pop. (1910) 6449.

Kingston, William Henry Giles (1814-80), an English writer, born in London, but was a resident of Oporto, where he wrote articles for the Portuguese newspapers. These articles were instrumental in con- [illegible] :aty be- t Among h *Whaler*, 1851; *The Three Midshipmen*, 1873; *The Three Admirals*, 1878; *Kidnapping in the Pacific*, 1879.

Kingston-upon-Hull, *see* HULL.

Kingston-upon-Thames, a municipal bor. and market tn. of Surrey, England, 11 m. S.W. of Charing Cross. It is a residential suburb, possessing fine promenades and public gardens on the river bank. There are large market gardens, and in the town flour mills, breweries, oil works, and brickyards. Kingston is historically interesting; several Saxon kings were crowned here, and the coronation stone, which is supposed to have been used for the throne, now stands in the market place. The Saturday market was granted by James I., and the Wednesday market by Charles II. A fair, held in November, was granted by Henry III. Pop. (1911) 37,977.

Kingstown: 1. Formerly Dunleary, a tn. and seaport of Dublin, Ireland, situated on Dublin Bay, 6 m. from the city. It is the mail-packet station for communication with Liverpool and Holyhead, and has a royal harbour, which may be entered by vessels drawing 24 ft. at any state of the tide. K. is a popular holiday resort, possessing three yacht clubs; it is a fishing centre, and has an export trade in cattle. Pop. (1911) 17,227. 2. A seaport and cap. of St. Vincent, West Indies, situated on the S.W. coast. It has considerable export trade in spices, sugar, cocoa, spirits, etc. Pop. 6000.

Kingsway, a thoroughfare which connects Holborn with the Strand. It was so called in compliment to the late King Edward VII., who opened it on Oct. 18, 1905. It runs from High Holborn, opposite Southampton Row, to Aldwych, and is 1800 ft. long and about 110 ft. wide.

Kingswinford, a par. and vil. of Staffordshire, England, 3 m. W. of Dudley, with coal mines and manufs. of nails, bricks, laths, etc. Pop. (1911) 20,808.

Kingswood, a par. and vil. of Gloucester, England, 3½ m. from Bristol, with manufs. of boots, elastic, pins, etc., also woollen and silk industries. There are interesting abbey ruins in the vicinity. Pop. (1911 12,705.

King-tê-chen, a tn. of China in the prov. of Kiang-si. It stands on the R. Chang, near Fu-liang-Hien. There are 3000 porcelain furnaces. The Kau-ling Hills in the district have given the name to Kaolin or China clay, used in the porcelain manuf. Pop. 500,000.

Kington, a tn. of Hereford, England, situated on the Arrow. It has tanyards and malt-houses, iron foundries, and nail factories. Pop. (1911) 1819.

Kingussie, a tn. of Inverness-shire, Scotland, 55 m. N.N.W. of Perth. It is a favourite summer resort. Pop. 2000.

King William's Town, locally called 'Kings,' a tn. in Cape of Good Hope, S. Africa, situated on the Buffalo R. in the midst of an agricultural district. It is a busy trade centre and the headquarters of the Cape Mounted Police. There are manufs. of jams, sweets, leather, candles, soap, etc. Pop. 9500.

Kin-kiang, *see* CHIN-CHIANG-FU.

Kinlochleven, a tn. at the head of Loch Leven, Argyll, Scotland, is of recent growth, and owes its existence to the development of the water-power of the district. *See* LEVEN.

Kinloss, a vil. of Ontario, Canada, situated in Bruce co., close to Kincardine. Pop. 3000.

Kinneir, Sir John Macdonald (1782-1830), a traveller and diplomatist, born at Carnden, Linlithgow. In 1804 he was appointed ensign in the Madras Infantry, and became captain

in 1818. He made numerous journeys in Persia, and also travelled through Armenia and Kurdistan, publishing his results in a *Narrative of Travels in Asia Minor, Armenia, and Kurdistan in* 1813-14. He was envoy to Persia (1824-30), and took part in the hostilities with Russia.

Kinning Park, a dist. of Lanarkshire, Scotland, in the par. of Govan, situated on the Clyde. It was a country resort for the Glasgow citizens until 1860, when the extension of Glasgow harbour and docks caused it to become a residential part.

Kino, an astringent drug obtained from certain trees on the W. coast of Africa and in India. The substance recognised as K. at the present day is the product of *Pterocarpus marsupium*, a tree found in Ceylon and Southern India. It is obtained by making incisions in the trunk and collecting the hardened exudation. It consists of dark red glistening fragments which are moderately soluble in water, but are easily soluble in alcohol. The properties of the drug are due to the presence of kino-tannic acid and pyrocatechin. It is a useful astringent, and was formerly used as a gargle for sore throat.

Kinprili, *see* KOPRILI.

Kinross, the cap. of the co. of Kinross-shire, Scotland, situated 8½ m. from Dunfermline. There are several woollen mills, and the manufacture of linen is carried on. The town is ancient, and has interesting ruins; it was the principal residence of Alexander III. Pop. (1911) 2618.

Kinross of Glasclune, John Blair Balfour, first Baron (1837-1905), Lord President of the Court of Session in Scotland, born at Clackmannan. He was called to the Scottish bar in 1861, and rose to be the foremost advocate in Scotland. He was appointed Solicitor-General for Scotland in 1880 and in 1881 became Lord-Advocate, again holding the office in 1886 and from 1892-95, and during the last period he took an active part in carrying through the House of Commons the Local Government Act for Scotland, 1894. In 1899 he succeeded James P. Bannerman as Lord President of the Court of Session, and in 1902 was raised to the peerage.

Kinross-shire, an inland co. of Scotland, with an area of 87 sq. m. It is bounded on the N. and W. by Perthshire, on the S. and E. by Fifeshire. Its surface is well cultivated—barley and oats are grown, and cattle and sheep are reared. In the S.E. is Loch Leven, which is drained by the R. Leven; the loch is noted for its many historical associations. In the N. and W. are the Ochil Hills, and eastward are the Lomond heights. The manufactures of the county are linen, plaids, and tartans; brewing is also carried on. Cap., Kinross. Pop. (1911) 7528.

Kinsale, a seaport tn. of co. Cork, Ireland, situated on Kinsale Harbour, 14 m. S.W. of Cork. It is built partly on the slopes of Compass Hill, and the streets are narrow and steep. It is frequented by summer visitors, and has important fisheries, being the headquarters of the South of Ireland Fishing Company. Pop. (1911) 4200.

Kinsale Harbour, an estuary of the R. Bandon in co. Cork, Ireland. It has an average width of half a mile, and extends 2 m. from the town of Kinsale.

Kin-sha-chiang, or **Kinsha-kiang**, *see* CHIN-SHA.

Kinston, a tn. of N. Carolina, U.S.A., and the co. seat of Lenoir co. It is situated on the Neuse R., about 26 m. S.E. of Goldsboro' by rail. Pop. (1910) 6995.

Kintyre, or **Cantire**, a peninsular dist. of Argyllshire, Scotland, situated between the Firth of Clyde and the Atlantic, and joined to the Argyll mainland by the isthmus of Tarbert. It is 43 m. long, with an average width of 6½ m.; the principal town is Campbeltown. The inhabitants are engaged in the fisheries, agriculture, and stone quarrying. The Mull of Kintyre is a headland at the southern extremity; a lighthouse is placed here with a light visible 24 m. distant.

Kiöge, a tn. of Denmark, on the Kiöge Bay, E. coast of Zeeland, in the prov. of Prasto and 21 m. S.W. of Copenhagen. Pop. 4500.

Kioto, or **Ky-oto**, an important city of Japan, 329 m. from Tokyo. It was founded in 793, and was from that time until the revolution of 1868 the capital of the Japanese empire. Consequently it contains many interesting buildings, among which are the Nishi-Hongwanji Temple, a large mass of buildings covering an area of 26 acres; the Doshisha, a Christian university under the auspices of the American Board Mission; the Imperial University, founded in 1875; the Kitano Tenjin, a temple dedicated to Tenjin Sama, which contains the thirty-six genii of poetry (the usual adornment of Shinto temples); and the San-ju-san-gen-do, the temple of the 33,333 images of Kwannon, the goddess of mercy, founded in 1132, the grounds of which contain the Daibutsu, or Great Buddha, and a fine art museum. Bleaching and dyeing are successfully carried on, for K. abounds in clear water, and the city is noted for its manufactures of silk, brocades, embroidery, velvet, porcelain, bronze, and other artistic products. Pop. 442,462

Kiowas, a tribe of N. American Indians which, when the white men first visited the Great Plains, inhabited the region round the head of the Platte R., but they have been traced as far to the N.W. as the Three Forks of the Missouri. In more modern times they were buffalo hunters and brave warriors, but by the Medicine Lodge Treaty in 1867 they gave up their free life and agreed to be assigned to their present reservation in the Indian territory. They are generally regarded as an independent stock, but have often been classed with the Shoshonis on account of the similarity of their language to the Shoshonean languages. They number about 1000.

Kipling, John Lockwood (1837-1911), an English author and artist, and father of the celebrated novelist, Rudyard K., born at Pickering. He was educated at Woodhouse Grove, and entered the Indian Civil Service in 1867. He was architectural sculptor at the Bombay School of Art 1865-75, principal of the Mayo School of Art and curator of the Central Museum at Lahore, 1875-93. He has published *Beast and Man in India*, 1901, a collection of Hindu and Mohammedan folk-tales, and has also executed illustrations for some of his son's books, viz. *Kim* and the *First* and *Second Jungle Books*.

Kipling, Rudyard (*b.* 1865), an Eng-

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what highly-coloured picture of his life there is presented in *Stalky and Co.* (1899). At the age of seventeen he returned to India and became sub-editor of the Lahore *Civil and Military Gazette*. In 1886 appeared his *Departmental Ditties*, a volume of light satirical verse; in the following year, *Plain Tales from the Hills;* and during the next two years, *Soldiers Three, The Story of the Gadsbys, In Black and White, Under the Deodars, The Phantom Rickshaw*, and *Wee Willie Winkie*. These tales quickly became famous in India, and it was recognised that a new force had come into the literary world. During the years 1887 to 1889 K. travelled through India, China, Japan, and America, and thence to England, where he arrived to find himself famous. His travel sketches were published in 1899 under the title of *From Sea to Sea*. In 1892 K. married Miss C. S. Balestier, the sister of W. Balestier, in conjunction with whom he wrote *The Naulahka* (1891). In 1894 a new vein was opened up by his *Jungle Book*, followed in 1895 by the *Second Jungle Book*. These masterly stories of animal life are considered by many K.'s best work. His *Barrack-room Ballads*, with which was published the fine 'Ballad of East and West,' are excellent examples of strong, vigorous verse set in realistic language. In addition to the works mentioned above, the following are K.'s chief works: *The Light that Failed*, 1891 (dramatised in 1905); *Life's Handicap*, 1890; *Many Inventions*, 1892; *The Seven Seas*, 1896; *Captains Courageous*, 1897; *The Day's Work*, 1898; *Kim*, 1901; *Just-so Stories for Little Children*, 1902; *The Five Nations*, 1903; *Traffics and Discoveries*, 1904; *Puck of Pook's Hill*, 1906; *Actions and Reactions*, 1909; *Rewards and Fairies*, 1910; *History of England* (with C. R. L. Fletcher), 1911. The range of K.'s powers is no less extraordinary than their quality. His work is unequal; it has been said of him that he has written some of the best and some of the worst poetry in the English language. But he has the power [illegible] although are obscu[illegible] of *Soldiers T*[illegible] of his tales dignity of *joie de vivr*[illegible] work render him one of the most interesting figures in modern literature. Where he perhaps excels is in the short story, as he is one of the very few masters of that branch of fiction in the English language. *See* Richard le Gallienne, *Rudyard Kipling: A Criticism;* 'Mr. Kipling's Stories' in Andrew Lang's *Essays in Little*, etc.

Kippis, Andrew (1725-95), a Nonconformist minister, born at Nottingham, and was educated for the ministry at Northampton, and in 1753 he became minister of a church in Westminster. He wrote for several magazines, founded the *Annual Register*, wrote several biographies, among them that of Dr. Doddridge, under whom he had studied, and edited the *Biog. Brit.*, 2nd edition.

Kipu, *see* QUIPU.

Kiratpur, a tn. in the Bijnaur dist., United Provinces, India, 42 m. N.E. of Meerut. Pop. 15,000.

Kirchberg: 1. A tn. of Saxony, Germany, 6 m. S.E. of Zwickau. It manufs. cotton and woollen goods. Pop. 7227. 2. A vil. in the canton of St. Gall, Switzerland, 25 m. E. of Zürich. Pop. 5620.

Kircher, Athanasius (*c.* 1601-80), a German scholar, was professor at six Jesuit colleges in his native country, and from 1635 to 1643 lectured on mathematics at the Collegio Romano in Rome. His

Œdipus Ægyptiacus (1652-55) promoted the study of Egyptian hieroglyphics, and his *Prodromus Coptus* (1636) of the Coptic tongue. A wide knowledge of ancient and modern Italy is revealed by his *Latium* (1669), whilst those hasty judgments and inaccuracies of which he was often guilty are patent in his *China illustrata* (1667).

Kirchheim: 1. A tn. in Würtemberg, Germany, 16 m. S.E. of Stuttgart. It manufs. textile fabrics. Pop. 9669. 2. A vil. of Baden, Germany, close to Heidelberg. Pop. 5609.

Kirchhoff, Gustav Robert (1824-87), a German physicist, graduated Ph.D. from the university of his native town, Königsberg, in 1847. He held the chair of physics successively at Breslau (appointed in 1850), Heidelberg (1854), and Berlin (1875), but his professorial duties were never allowed to interfere with his private research. In collaboration with Von Bunsen he evolved the theory and practice of spectrum analysis, and indicated how the prism may be used to establish the chemical composition of celestial bodies. His *Vorlesungen über mathematische Physik* (1876) contains an original treatment of dynamics.

Kirchhoff's Laws, *see* ELECTRICITY AND MAGNETISM.

Kirchhörde, a vil. in the prov. of Westphalia, Prussia, about 4 m. S. of Dortmund. The inhabitants are engaged in coal-mining and the manuf. of tin. Pop. about 13,500.

Kirghiz, The, are a nomadic people belonging to the Mongolian-Tartar family and divided into Kara-Kirghiz and Kirghiz Kazaks. The former recognised Russian suzerainty in 1864 and the latter in 1819. The Kara-Kirghiz dwell in the highlands between the rivers Issik-kul and Kuen-Lun and wander from the eastern borders of Ferghana across to the Muzart. They number in all about 400,000, and are divided into two main sections, the Sol in the W. and the On in the E. The Kirghiz Kazaks roam on the steppes in the Russian provinces of Syr-Daria, Ural, Turgai, Akmolinsk, and Semipalatinsk. Both tribes are nominally Sunnites, but in reality they believe in an evil spirit, Shaitan, besides a good spirit. Physically, they resemble the Mongolians, but their speech is pure Turki. They breed fat-tailed sheep, hardy horses, camels, goats, and oxen, and cultivate wheat and millet. They number about 340,000.

Kiria, *see* KERIYA.

Kirin, or Girin, a prov. of Manchuria, to the N. of Korea, having an area of about 110,000 sq. m. The country itself is fertile even in the mountainous parts; millet, wheat, barley, potatoes, and opium being the chief products. Pop. (estimated) 6,000,000.

Kirin, the cap. of the prov. of the same name, situated on the Sungari, 225 m. N.E. of Mukden. Pop. (estimated) 100,000.

Kirjath-jearim, a tn. in Palestine, situated in Judah, and identified by some with 'Erma,' and near to Bethshemesh. Here the ark rested until taken up to Jerusalem.

Kirjath-sepher, according to Judges i. 11, was the older name of the town which was named by the Hebrews Debir.

Kirk, Sir John (*b.* 1847), secretary of the Ragged School Union since 1879, and actively identified with many forms of philanthropic work, especially that affecting children. Knighted in 1907.

Kirk-Agatch, a tn. of Asia Minor, 52 m. N.E. of Smyrna. It manufs. cotton goods. Pop. 20,000.

Kirkburton, a tn. in the W. Riding of Yorkshire, England, about 5 m. S.E. of Huddersfield. It manufs. woollen goods, and coal mining is carried on. Pop. (1911) 3410.

Kirkby-in-Ashfield, a par. and vil. in the co. of Nottinghamshire, England, 12 m. N.W. of Nottingham. In the vicinity are coal mines. Pop. (1911) 15,379.

Kirkby Lonsdale, a market tn. in the co. of Westmorland, England, on the R. Lune, 12 m. S.E. of Kendal. Pop. (1911) 1524.

Kirkby Moorside, a market tn. in the N. Riding of Yorkshire, England, on the R. Dove, 6 m. W. of Pickering. It manufs. iron and brass ware and agricultural implements. Pop. (1911) 4870.

Kirkby Stephen, a market tn. in Westmorland, England, on the R. Eden, 10 m. S.E. of Appleby. Copper, lead, and iron are found in the vicinity. Pop. (1911) 4504.

Kirkcaldy, a seaport tn. of Fifeshire, Scotland, situated on the Firth of Forth, 15 m. N. of Edinburgh. The town itself has been called the 'Lang Toun,' its main street being about 4 m. long. This town is the centre of linoleum manufacture, and also is engaged in bleaching, linen manufacture, engineering, iron-founding, and the manufacture of pottery. It was created a royal burgh about the year 1450, and with Kinghorn, Burntisland, and Dysart sends one member to parliament. It was the birthplace of Adam Smith. Pop. (1911) 39,600.

Kirkcaldy (or Kirkaldy) **of Grange, Sir William** (*c.* 1520-73), a Scottish soldier and politician, was early won

over to the Protestant party, and having assisted in the murder of Cardinal Beaton (1546), took refuge in St. Andrews Castle, and, on its surrender to the French, became a prisoner of the enemy and was confined in St. Michael's Mount, Normandy. Soon, however, he made good his escape, and after serving with distinction in the French army, returned to Scotland in 1557. At home he proved zealous in the cause of Reformation, was implicated in the murder of Rizzio, and having joined the nobles against Bothwell, received the surrender of the queen at Carberry Hill (1567). Her defeat at Langside in the same year was largely the outcome of his able strategy, but henceforward, prevailed on, it seems, by the plausible arguments of the subtle Maitland of Lethington, he became Queen Mary's stalwart champion. As governor of Edinburgh Castle he proceeded to fortify it for the royalist faction. In 1572 he broke off negotiations with the Regent Morton, preferring to stand 'stiff upon his honesty' and not betray his friends. He surrendered on June 3, 1573, and was executed at the cross of Edinburgh.

Kirkcudbright, the co. tn. of Kirkcudbrightshire, Scotland, situated on the l. b. of the Dee. It has the best harbour in the S. of Scotland, and contains an old church and several other ancient structures. Pop. (1911) 2191.

Kirkcudbrightshire, a maritime co. in the S. of Scotland. The coast is containing smugglers. y is mountbeing Mt. chief rivers are the Dee, Ori, and Fleet. Granite is quarried in the county, and the pasturage is good, the rearing of cattle—especially of the polled Galloway breed—forming one of the industries. K. is also noted for its honey. The county sends one member to parliament. Area 899 sq. m. Pop. (1911) 38,363.

Kirkdale Cave, a cavern in a limestone rock in the North Riding of Yorkshire, about 1¼ m. W.S.W. of Kirkby-Moorside. This cave, which was discovered in 1821, contains the fossil remains of animals, among which are the hyæna, tiger, and hippopotamus.

Kirkee, a tn. about 4½ m. N.W. of *Poona, India*. It is engaged in the manuf. of ammunition on a large scale. Pop. 11,000.

Kirkham, a market tn. in the co. of Lancashire, England, 8 m. W.N.W. of Preston. It is engaged in the cotton and linen manuf. Pop. (1911) 3793.

Kirkintilloch, a tn. in the co. of Dumbarton, Scotland, 7 m. N.E. of Glasgow. It has coal mines and iron foundries, and manufs. chemicals. Pop. (1911) 11,932.

Kirk-Kilisse, a tn. of European Turkey, situated about 33 m. E. by N. of Adrianople. Near this town was fought the first great battle between the Bulgarian and Turkish forces during the Balkan War of 1912-13 (*q.v.*). Pop. about 16,000.

Kirkless, a vil. in the W. Riding of Yorkshire, England, 4 m. N.E. of Huddersfield. Here are situated the ruins of a Cistercian nunnery of the 12th century.

Kirkley, a vil. on the coast of Suffolk, England, forming a suburb of Lowestoft. Pop. (1911) 6550.

Kirkliston, a vil. in the co. of Linlithgowshire, Scotland, on the R. Almond, 10 m. W. of Edinburgh. It has distilleries. Pop. (1911) 5296.

Kirkmaiden, a par. in Wigtownshire, Scotland, is situated on Luce Bay and in the peninsula of Galloway. It is the most southerly point of Scotland, and is mentioned as Maidenkirk in the expression signifying from extreme S. to extreme N. of the country, *i.e.* from 'Maidenkirk to John o' Groats.' Pop. (1911) 1789.

Kirkoswald, a vil. in the co. of Ayrshire, Scotland, 4 m. S.W. of Maybole. This village contains the tombs of the ancestors of the poet Burns, who himself resided here for a year. Pop. (1911) 1685.

Kirkpatrick, a vil. in Saskatchewan, Canada, 10 m. W.S.W. of Prince Albert. Pop. 1500.

Kirk-session, *see* PRESBYTERIANISM.

Kirkstall, a vil. in the W. Riding of the co. of Yorkshire, England, 3 m. N.W. of the ruins of the 12th ce 48,303.

Kirksville, a tn. in the co. of Adair, Missouri, U.S.A. It is situated on two railways, and manufactures iron goods. Pop. (1910) 6347.

Kirkton, or Kirkton-in-Holland, a tn. in the co. of Lincolnshire, England, 4 m. S.S.W. of Boston. Pop. (1911) dist. 10,167.

K of T Cathedral of St. Magnus, dating from mediæval times, the earl's castle, and bishop's palace. K. possesses an excellent harbour. Distilling is engaged in. Pop. (1911) 3810.

Kirkwood, Daniel (1814–95), an American astronomer, was professor of mathematics at Delaware College

(1851), and in 1856 accepted a similar post in the University of Indiana. The unequal distribution of asteroids had long been observed, and K. is to be congratulated on having advanced a very reasonable hypothesis in explanation of this phenomenon. He asserted that the gaps in their distribution was due to the attractive force of Jupiter, inasmuch as the asteroids, which ought to occupy those spaces, would revolve in periods closely related by the law of commensurability with that of Jupiter. K. also pointed out that the magnitude of the interval between any two planets was incompatible with Laplace's nebular hypothesis. Between 1867 and 1888 he published *Comets and Meteors* and *Asteroids*.

Kirman, *see* KERMAN.

Kirmanshah, *see* KERMANSHAH.

Kirn: 1. A tn. in the Rhine prov., Prussia, 40 m. S.W. of Coblenz, on the Nahe. It is engaged in the woollen manufacture. Pop. 7103. 2. A watering-place in the co. of Argyllshire, Scotland, on the Firth of Clyde, adjacent to Dunoon. Pop. (1911) 1400.

Kirriemuir, a par. and market tn. of Forfarshire, Scotland, stands on the Gowrie Burn, 5 m. W.N.W. of Forfar. It has manufs. of brown linen, and is celebrated as being the 'Thrums' of Sir J. M. Barrie's novels and the author's birthplace. Pop. (1911) par. 5391.

Kirsanov, a dist. and tn. of Russia, 60 m. E. of Tambov, and trades in grain, hides, and cattle. Pop. 11,000.

Kir-shehr, a tn. in Anatolia, Asia Minor, 85 m. S.E. of Angora, and stands at an altitude of 3235 ft. Noted for carpets. Pop. 9000.

Kirstein, Frederic (1770-1840), a celebrated goldsmith and chiseller, born at Strasburg. He contributed largely towards the development of his art, and decorated in a variety of different designs, plaques, cups, vases, etc., in precious metals. He exhibited at the Salons of 1810, 1827, and 1834. His son, *Frederic*, who was his pupil, born in 1805, became a noted sculptor. He entered the Ecole des Beaux-arts, Paris, in 1825. Amongst his best known works are 'Laura and Petrarch,' the statue of Erwin de Steinbach in the Strasburg Cathedral, 'La Mélodie et l'Harmonie,' etc.

Kirsten (or Kirstenius), Peter (or Petrus) (1577-1640), a physician and Oriental scholar. He studied in Germany and travelled widely in Europe. Invited to Sweden by Oxenstiern, he became physician to Queen Ch[illegible] and medical professor at Upsal[illegible] versity. His works include [illegible] *Grammar*, 1608-10; and *Notes* [illegible] *Gospel of Saint Matthew from the Collation of Arabic, Syriac, Egyptian, Greek, and Latin Texts*, 1611.

Kiryu, a tn. in the prov. of Kotsuki, Japan, 60 m. W.N.W. of Tokyo; has manufs. of silk, gauze, and crape. Pop. 24,000.

Kishangarh, a tn. in India, the cap. of the native state of the same name. Pop. 14,800.

Kishinev, the cap. of the Russian prov. Bessarabia, stands on a trib. of the Dniester, 120 m. N.W. of Odessa. The chief exports are grain, hides, tallow, and tobacco. K. was the scene of serious anti-Semitic riots in 1903. Pop 126,000.

Kishm, or Tavilah, a barren island in the Strait of Ormuz, Persia. It is about 70 m. long and 4 m. broad, and has a range of salt-hills. Kishm (ancient *Oaracta*), the chief town, is the residence of a sheikh. Pop. 15,000.

Kishon, a riv. of Central Palestine, flows through the plain of Esdraelon in a north-westerly direction, and enters the Mediterranean 6 m. S.S.W. of Acre. It is known to the Arabs as El-Mukatta.

Kishoregunge, or Kishoriganj, a tn. of Bengal, British India, in the Maimansingh dist. Pop. 15,000.

Kis Körös, a tn. in Hungary, 28 m. S.W. from Kecskemet, is celebrated as the birthplace of Petöfi. Pop. 10,000.

Kiskunfélegyháza, *see* FÉLEGYHÁZA.

Kiskunhalas, *see* HALAS.

Kiskunmajsa, a tn. in Hungary, lies in the comitat Pest-pilis-solt-kis-kun. 25 m. N.W. from Szegedin. Pop. 15,000.

Kismayu, a port in British E. Africa, stands near the mouth of the Juba R., in a district inhabited by Somali tribes; it has an excellent harbour. Pop. 3000.

Kismet (Arabic *kismeh* and Persian *kusmut*), meaning 'fate,' a word made use of by Mohammed when he preached in the Koran the duty of submission to all that God has preordained. He believed that a man's every action was predestined, yet he never suggested the folly of struggling against an adverse doom. The doctrine of K. has prompted Mohammedans to utmost heroism and fortitude in the cause of their religion.

Kiss, a form of salutation, or an expression of reverence or love, which consists in pressing or touching with the lips the lips, cheek, hands, or feet of another. Newly-appointed cardinals kiss the sandal on the pope's right foot as a symbol of veneration, and the 'kiss of peace,' *osculum pacis*, is still a part of the ritual of the mass [illegible] Roman Churches. [illegible] kissing is restricted, [illegible] Englishmen.

[illegible] st in French Guinea, W. Africa, 140 m. S.E. of Timbo.

Kissingen, a popular Bavarian [illegible] are used in cases of dyspepsia, gout, etc., and large quantities are exported annually. Pop. 5830.

Kistna, or Krishna, a dist. of Madras, British India, contains the delta of the R. Kistna; the chief town is Masulipatam. Pop. 2,155,000.

Kistna, or Krishna, a river of S. India, rises in the Western Ghats, 40 m. from the Arabian Sea; at its source is an ancient temple, to which large numbers of pilgrims resort. From here the river flows through the Bombay Presidency and drops steeply from the table-land of the Deccan, receiving its two chief tributaries, the Bhima and the Tungabhadra. It forms the boundary between the Nizam's dominions and the Madras Presidency, and enters the Bay of Bengal by two mouths, making an immense delta. Its total length is 800 m., but its course is too rocky and rapid for navigation.

Kisujszallas, a tn., with magistracy, in Hungary, 45 m. W.S.W. of Debreczen. Pop. 12,500.

Kisumu, a prov. of British E. Africa, governed by a sub-commissioner, under the control of the chief commissioner, who is resident at Zanzibar; the chief town is Kisumu.

Kit, term used for a soldier's outfit. A recruit, on joining the army, is provided gratis with underclothing, razor, brushes, towels, mess-tin, knife and fork, and cleaning materials, and these things constitute his K. It is his duty to keep them in good order and to buy new articles as occasion arises. In popular language his uniform and other outward accoutrements are often erroneously included in his K.

Kita, a tn. of the French Sudan, in Senegambia, N.W. of the Niger. It is a fortified military station.

Kitchener, Horatio Herbert, Viscount of Khartoum and Aspall, in Suffolk (*b.* 1850), born in Ireland, the eldest son of the late Lieut.-Col. H. H. Kitchener. After studying at Woolwich, he entered the Royal Engineers in 1871. He was engaged on the Palestine Survey (1874-78), and then on that of Cyprus (1878-82), after which he entered the Egyptian Cavalry, and took part in the Sudan [illegible] for the relief of [illegible] joining the rank [illegible]. He became governor of Suakin in [illegible] of the Egyptian arm [illegible] that capacity he recov [illegible] 1896, for which he w [illegible] general and K.C.B., and two years later came his crowning success in Egypt in the expedition which he organised against the power of the Khalifa. In April 1898 he defeated the dervishes at the Atbara, and in the following September he won the decisive victory of Omdurman, capturing Khartoum, and completely overthrowing the power of the Khalifa. For these services he was raised to the pecrage, and parliament voted him the sum of £30,000; he was presented with the freedom of the City of London, and a sword of honour, and he received the degree of D.C.L. from Oxford University. During his brief stay in England at this time he raised, by subscription, the sum of £100,000 to found a college for natives at Khartoum, in memory of General Gordon. The Boer War was now in progress, and in December 1899 he accompanied Lord Roberts to S. Africa as chief of staff, and had a large share in organising [illegible] that [illegible] re- [illegible], he assumed supreme command with the rank of lieutenant-general, and brought the war to a successful conclusion by means of a system of 'block-houses' and extensive 'drives' introduced to combat the guerilla tactics of the Boers. Assisted by Lord Milner he arranged with the Boer leaders the terms of the peace which was signed on May 31, 1902. King Edward sent him a congratulatory telegram, and he was raised to the rank of viscount in the peerage, while parliament voted him a sum of £50,000, and thanked him for his great services. In November of the same year (1902) he proceeded to India to take over the chief command of the forces there, where he remained till 1909. In that year he became commander-in-chief in the Mediterranean, and he was raised to the rank of field-marshal. At the coronation of King George V. he commanded the troops in London. In 1911 he was made a Knight of St. Patrick, and returned to the scene of his earlier triumphs in Egypt, where, as agent and consul-general at Cairo, he had an opportunity of displaying his great qualities as an administrator. In July 1913 the Khedive, on K.'s advice, granted a parliamentary constitution on a more democratic basis. Lord Rosebery said of him that he was 'a general with a dash of statesmanship.' A taciturn man of few words, he has shown himself a [illegible]

moddingen), names given to what

were, in reality, the refuse heaps of various prehistoric peoples. Until 1860 they were believed to be raised beaches, glacial deposits found round the coast of the British Isles, and little notice was taken of them. Professor Steenstrup, a Danish archæologist, found that though the mounds are largely composed of shells, there were also fragments of animal and bird bones, rough pieces of pottery, and implements of stone and wood. In some cases a considerable amount of burnt earth also was found, as well as stones showing the marks of fire, suggesting the stones put under the cooking pot by gipsies to this day. Among the shells he found those of the oyster, mussel, periwinkle, and cockle—molluscs which have never been known to live together under the same conditions. Two other facts—that the shells all belonged to well-grown animals, and the entire absence of gravel in any heap—proved that the natural theory was wrong, and the conclusion come to by him and two other Danish professors, Worsaae and Forchhammer, and since then by many eminent archæologists, was that these heaps had been formed by early man and woman as they threw away those parts of their meals which they found it impossible to eat. The result of the three professors' investigation was submitted in six reports to the Danish Academy of Sciences, and several thousands of specimens found in the middens were presented to the Museum of Northern Antiquities at Copenhagen. Some of the largest middens measure as much as 1000 ft. in length, 200 ft. in breadth, and 10 ft. deep. But the majority are much smaller and were probably the refuse heaps of a nomadic people who travelled along the coast, living chiefly on shell-fish. Lord Avebury, who examined the midden at Havíloe in 1861, found over a hundred fragments of bone, rude flint flakes, slingstones, and nine roughly hewn axes. He thinks the middens probably date from the early part of the Neolithic Stone Age, when the art of polishing flint implements was slightly known. The food used evidently included herring, eel, dab, capercailzie, great auk, many kinds of wild ducks and geese, stag, reindeer, wild boar, dog, wolf, fox, beaver, wild cat, hedgehog, mouse, seal, porpoise, water rat, and otter. Many middens now situated at the sea's edge show traces of having been some distance inland. Middens are found in every part of the world. In Europe they have been discovered on the coast of the British Isles, in Cornwall and Devonshire and Scotland, in France, Sardinia, and Portugal. They are also found on many parts of the coast of N. and S. America, Australia, and Japan. In Florida some of the middens examined have measured as much as 40 ft. in height. As investigations are carried out more thoroughly, middens are continually being discovered, providing interesting evidence of the domestic habits of early peoples. The making of middens still goes on by little-civilised people who live on the coast.

Kitchin, George William (1827-1912), an English author and divine, spent his school days at King's College School and College and afterwards graduated from Christ Church, Oxford. From 1868-83 he was censor to the non-collegiate students of his old university, a post which he renounced on receiving the deanery of Winchester. In this office he served till 1894, when he accepted a similar position at Durham. In 1909 he was created chancellor of Durham University. Among his better-known publications are: a *History of France*, 1873-77; *Pope Pius II.*, 1881; *Winchester*, 1890; and *Ruskin in Oxford*, 1903.

Kite, the name popularly given to *Milvus ictinus*, a species of Falconidæ. It is now distributed through Europe, Palestine, Asia Minor, and N. Africa, and will breed occasionally in certain parts of N. and W. Britain. Three or four centuries ago these birds were found in great numbers in the streets of London, where they acted as street scavengers. The paper K. of schoolboys derives its name from this source. *M. ictinus* is generally distinguished as the red K., its general colour being reddish-brown, with tail-feathers of a light red, barred with brown; the bill is black and strongly curved; the deeply forked tail is capable of great expansion, and ensures the rapid, graceful flight which is such a marked feature of this bird. The habits of the K. are gregarious and sluggish, and its food consists of offal, small birds, fishes, insects, etc. Its nest, which is formed largely of rags and other rubbish, is generally placed in the cleft of a tree. *M. ater*, the black K., is very common in some parts of Europe. *M. govinda* is the pariah K. of India; *M. affinis* is an Australian species; and *M. melanotis* is confined to E. Asia.

Kites (so called from resemblance to the bird, *cf.* German *drache* (dragon), kite), light frames of varying shapes, on which some material, such as paper, silk, etc., is stretched. A cord is attached and the K. is flown in the air, the cord being let out as it ascends. When made of the common diamond shape,

or triangular with a semicircular top, K. have a 'tail' attached for balancing purposes. The invention of K. is ascribed by tradition to Archytas of Tarentum, in the 4th century B.C., but there is no doubt that long before this time K. had been known to the Asiatic nations and to some savage tribes. The origin of the practice of kite-flying is obscure; it is perhaps religious, and certainly still partakes of such a nature among the Maoris. The pastime has always been the national one of the Korean, Chinese, Japanese, Tongkinese, Annamese, Malay, and East Indian nations, and throughout Eastern Asia even the tradespeople indulge in it in the intervals of business. Many weird and beautiful shapes are taken by the Chinese and Japanese K., birds, beasts, fishes, and dragons being represented; the size reaches 7 ft. in some cases, the framework being of bamboo strips covered with rice paper or very thin silk. The ninth day of every month is 'kite day,' when practically all the men and boys indulge in the pastime of kite-flying and kite-fighting. In the latter, the cord near the K. is stiffened with a mixture of glue and crushed glass or porcelain; each of the players strive to send his K. to windward of the other, when the cord is allowed to drift against that of its opponent, until a sudden jerk cuts through it. The K. used in the Malay Peninsula have no tails as a rule; in several parts of Asia K. are used which have one or mor[illegible]e give forth a[illegible] when the K. [illegible] K. are flown [illegible]ht by the common people in order to keep away evil spirits. K. were used for scientific purposes in 1749 and in 1752, when Benjamin Franklin's famous electrical experiment was carried out, but their widespread use for meteorological and military purposes may be said to date from the latter years of the 19th century. At the present time many observatories in the United Kingdom and America make constant use of K. to record not only the temperature but the humidity of the atmosphere and the velocity of the wind at various altitudes. The K. used are mostly box or Hargrave K., so called after their inventor. They are in shape like a box with the two ends and the middle of each of the sides removed. K. with a semicircular section instead of the [illegible] are used for [illegible] and with a [illegible] in England. [illegible] used varies from 30 to 80 sq. ft. Steel piano-wire is generally used, as it combines thinness with strength. The method of sending up K. is as follows: the first K. is launched with the self-recording barometers, anenometers, etc., either inside or just below it, and the wire is paid out at about 3 m. an hour until the K. is as high as is safe, considering its sail-area, etc. Another K. is then fastened to the end of the first wire, and so on, according to the height it is desired to reach. A height of 1 or 2 m. can be reached easily, but over 2 m. the risk of losing the K. is much greater. The length of wire that one K. will raise may be taken, on the average, as 1000 ft. (of ⅛ in. wire) for every 10 ft. of lifting surface. From a military standpoint, K. are useful for signalling purposes, for carrying up lamps, flags, etc., for photographic purposes, and in the place of a captive balloon. When used for photography, the shutter of the camera which they carry may be operated by a clockwork apparatus or an electric wire, etc. Man-lifting K. have many advantages over captive balloons for reconnoitring purposes; they are cheaper, more rapid to use, not so easily damaged, and easier to transport. Lieutenant H. D. Wise in 1897 lifted a man 40 ft. by means of a large Hargrave K., and Major Baden Powell, by means of five or six small K. measuring 1 sq. ft. in section, a method which is preferable to the use of one large K., lifted a man 100 ft. Most of the European powers have made similar experiments.

Kits Coity House, *see* DOLMEN.

Kittatinny, or Blue Mountains, a mountain ridge of Pennsylvania and New Jersey, U.S.A., forming part of the Appalachian system. It is famous for its picturesque scenery, and includes the celebrated Delaware Water Gap. Alt. 1200 ft. to 1800 ft.

Kittery, a seaport tn. of Maine, York co., U.S.A. It is situated at the mouth of the R. Piscataqua, opposite Portsmouth, about 46 m. S.S.W. of Portland. The Portsmouth navy yard (a U.S.A. yard) is here, and there is a busy coasting trade, and fishery. Pop. (1910) 3533.

Kitzingen, a tn. of Bavaria, Germany, in the prov. of Lower Franconia, on the R. Main, 10 m. E.S.E. of Würzburg, with breweries, and a trade in wine and prunes. Pop. 9108.

Kiu-kiang, a treaty port in the prov. of Kiang-si, China. It is situated on the r. b. of the Yang-tse-kiang, 130 m. S.E. of Hankow. Tea, tobacco, fibre, paper, porcelain, and cotton are exported. This city has also a foreign settlement. Pop. 36,000.

Kiung-chow, a tn. of China, on the island of Hainan, belonging to the province of Kwang-tung. Its port is

Hoihow, situated about 3 m. away, and was opened to foreign trade in 1876. The chief exports are pigs, nuts, grass-cloth, eggs, and sesamum. Pop. 42,000.

Kiushiu, Kiusiu, or Kimo, the most southerly of the three principal islands of Japan, separated from [illegible] of Korea, and fro[illegible] Island by the St[illegible] has an area (including small adjacent islands) of 16,840 sq. m., and is mountainous, though not remarkable for lofty peaks. Aso-take, an active volcano, has the largest crater in the world. The island is subject to earthquakes on the Pacific coast, and has a varied climate, the summers are hot and winters very cold, the months of July and August being especially marked by the oppressive heat at sea-level. The occurrence of the rice famine in 1869 in K., when the people perished from hunger on account of the lack of transport facilities, was largely responsible for the introduction of a railway system into Japan. A line now runs from Moji in the N. to Kagoshima in the S., a distance of 233 m., and another from Moji to Nagasaki, 164 m. Coal is found in the island, copper also is mined, and rice, wheat, beans, tea, and tobacco are grown. Pop. 7,500,000.

Kizil Kum, a desert of sand, situated in Russian Turkestan, and between the Amu-Daria and Syr-Daria Rivers. It extends in a south-easterly direction from the Sea of Aral.

Kizil-Uzen, a riv. of N.W. Persia. It rises in Ardelan, flows N. through Azerbaijan, then S.E., and finally N.E. through Ghilan into the Caspian Sea, E. of Resht. Length 450 m.

Kizlyar, a tn. in the Terek prov., Russia, situated on the Terek, 50 m. from the mouth of the river in the Caspian Sea. The vine and fruit are cultivated here. Pop. 8000.

Kjerulf, Halfdan (1815-68), a Norwegian composer, born in Christiania, where he graduated in law (1834) before his efforts were finally directed to music (1840). Ten years later he studied in Leipzig under Richter. After an unsuccessful attempt, on his return, to organise subscription series of high-class concerts, he gave himself entirely to composition. His best work was composed from 1860-65. He wrote pianoforte pieces and stirring quartettes, and choruses for men's voices, but he is best known for his charming songs, of which he wrote more than 100. His setting of Björnson is justly famous.

Kjobenhavn, the Danish name for Copenhagen.

Kjöge, *see* KIÖGE.

Kjölen Mountains (*Kjölen*, the keel), the name given to the main mountain system of the Scandinavian peninsula, which consists of a vast plateau grooved by deep valleys. These mountains run N. and S. and form the backbone range which divides the two kingdoms of Norway and Sweden in the N.

Kjöprülü, *see* KOPRILLI.

Kladderadatsh, a weekly illustrated paper, published in Berlin. Founded in 1848, it is the chief humorous paper in Germany.

Kladno, a tn. of Bohemia, about 15 m. N.W. of Prague. It possesses iron and coal mines, and manufactures steel and iron goods. Pop. 19,339.

Klagenfurt, the cap. of Carinthia, Austria, near the Elan, 40 m. N.W. of Laibach. It possesses an ancient cathedral, the Rudolfinum Museum, and a statue of Maria Theresa. It manufactures leather, machines, cloth, and tobacco. Pop. 28,958.

Klamath, a riv. of California, U.S.A., rising in the S. part of Oregon and flowing through Klamath Lake. It assumes a south-westerly direction, and empties itself into the Pacific Ocean. Its course, which lies in a mountainous country, is through narrow cañons, and has a length of about 275 m.

Klang, a tn. in Selangor, Malay states, situated near the Klang R. It is the chief seaport of Selangor.

Klapka, George (1820-92), a Hungarian general, born at Temesvar, joined the Hungarian revolution of 1848, when he won several victories and greatly distinguished himself by the siege of Komorn, which he defended long after the main Hungarian army had capitulated. He wrote *Memoirs of the War of Independence in Hungary*, 1850; *The War of the East*, 1855; and other military works.

Klaproth, Martin Heinrich (1743-1817), a German chemist, born at Wernigerode. He was appointed lecturer in chemistry to the Royal Artillery in 1787, and professor at the University of Berlin in 1810. He was the leading German chemist of his time, and discovered uranium, titanium, zirconium, and mellitic acid; he also made experiments on copal and completed the discovery of tellurium. He wrote: *A System of Mineralogy; Chemical Essays;* and a *Dictionary of Chemistry* (with Wolf).

Klattau, a tn. of Bohemia, Austria, 28 m. S.S.W. of Pilsen. It has an old church and town hall, and manufs. cloth, machinery, chicory, and matches. Pop. 14,387.

Klausenburg, *see* KOLOZSVAR.

Klausthal, or **Clausthal**, a tn. in the prov. of Hanover, Prussia, situated on the Harz Mts., 25 m. N.E. of

Göttingen. It is in the neighbourhood of some of the most valuable mines of Germany, producing lead, silver, and other minerals. Pop. 8268.

Klein, Julius Leopold (c. 1810-76), a German writer of Jewish origin. Educated in Hungary and Germany, he then travelled to Italy and Greece, finally settling in Berlin. He wrote many dramatic works, especially historical tragedies, including: *Maria von Medici*, 1841; *Luines*, 1842; *Zenobia*, 1847; *Moreto*, 1859; *Strafford*, 1862; and the comedies, *Ein Schützling*, 1850; *Voltaire*, 1862. His great work, *Geschichte des Dramas* (1865-76), was unfinished, as he died when about to start on the Elizabethan period. See *Dramatische Werke* (collected 1871-72).

Kleist, Heinrich von (1777-1811), a German writer, born at Frankfort-on Oder. He served in the Rhine campaign of 1796, but left the service in 1799, and devoted himself to the study of law and philosophy, finally taking up literature. His first drama, *Die Familie Schroffenstein*, a gloomy tragedy, appeared in 1803; this was followed by *Penthesilea* (1808), taken from a Greek source, and a romantic play, *Das Käthchen von Heilbronn, oder Die Feuerprobe*, the same year. Other dramas of his are: *Die Hermannsschlacht* (1809), and *Prinz Friedrich von Homburg* (published 1821), generally considered his best work. He also wrote comedies *e.g. Der zerbrochene Krug* (1811), and patriotic lyrics, and his *Michael Kohlhaas* is one of the best German stories of its time.

Klephts, bands of Greeks who in the 15th century waged guerilla warfare against the Turks, ultimately becoming brigands. They played a considerable part in the War of Independence at the beginning of the 19th century.

Kleptomania, a symptom of insanity which takes the form of an irresistible desire to steal. It cannot be considered a specific disease, but is associated with many forms of mental aberration. Some cases demonstrate a desire to steal any sort of property that may be available; in other cases, the patients seem to be obsessed by the desire for particular objects which they will acquire in a legitimate manner if that is possible, although they apparently feel no inhibitory force if stealing suggests itself to them as an alternative.

Klerksdorp, a tn. in the Potchefstroom dist., [illegible] Africa, 110 m. S [illegible]. There is a gold[illegible]. Pop. 5000.

Kleve, or Cleves, a tn. in the Rhine province of Prussia, 46 m. from Düsseldorf. It has manufactures of machinery and cigars. It was the capital of the duchy of Kleve from 1417 onwards, and contains Schwanenburg, the old ducal residence. One of Henry VIII.'s wives was Anne of Cleves. Pop. 18,048.

Klingenstierna, Samuel (1689-1785), a Swedish mathematician and philosopher, born at Tolefors, studied at Upsala. Celebrated for his discoveries in mathematics and physical science and specially for his researches on the aberration of light, which led to great improvement of the telescope and other optical instruments. Elected a fellow of the Royal Society in 1730.

Klingenthal, a tn. of Saxony in the circle Aurbach, 26 m. S. of Zwickau. It has manufs. of musical instruments. Pop. 5500.

Klinger, Friedrich Maximilian (1752-1831), a German playwright and poet, born, like Goethe, at Frankfort-on-Main, became an ardent disciple of the latter. His drama, *Sturm und Drang*, gave its name to that movement in German literature, characterised by exuberance of action and want of form. Another drama of his, *Die Zwillinge*, is also celebrated. From 1780 to 1830 he was employed in Russia, chiefly as head of the corps of pages. *See* Riegen's *Klinger in der Sturm-und-Drang Periode*, 1880.

Klintsi, a tn. in the gov. of Tchernigov, Russia, 100 m. N.N.E. of the tn. of Tchernigov. It manufs. cloth and woollen goods, and is also engaged in tanning. Pop. 12,000.

Klip River, a dist. in the S.W. of Natal, S. Africa, situated to the N. of the R. Tugela. It is watered by the Klip R., which rises in the N. of Natal, and the capital is Ladysmith.

Klondike, a small riv. situated in the Yukon ter., Canada, about 120 m. long. The region of the goldfield includes part of the basin of this river, and also of the Indian R., the existence of the mineral in this district being first discovered in 1896.

Klopstock, Friedrich Gottlieb (1724-1803), a German poet, born at Quedlinburg. Studied theology at Jena and Leipzig. Early in life he felt called upon to write a great religious epic, and finally chose the *Messiah* as his theme. The first three cantos appeared in 1748. They were received with great enthusiasm, and K. was hailed as the deliverer of German literature from the formalism of Gottsched and mere imitation of French works. The *Messiah* was not completed until 1773. Written in hexameters, it is a very uneven poem, some parts of it being imbued with deep feeling and fervour, while others

are flat and trivial. In 1750 K. spent some time with Bodmer in Zürich, but his conduct was too frivolous for his serious-minded host. In 1751 he received a pension from the King of Denmark, and remained at Copenhagen till 1771. K. also wrote dramas, principally upon old German history, *Die Hermannschlacht, Hermann und die Fürsten* and *Hermanns Tod*, but their worth is small. His odes, however, are considerably better, and many of them are imperishable. *See* Fr. Muncker's *Klopstock* (2nd ed.), 1900.

Klostermansfeld, a tn. of Prussia in Saxony, 5 m. N.W. by N. of Eisleben. Pop. 5487.

Klosterneuberg, a tn. in Lower Austria, situated on the r. b. of the Danube, 5 m. N.W. of Vienna. Here is situated the oldest Augustinian monastery in Austria, and the wines produced are famous. Pop. 14,786.

Kloster Zeven, Convention of, concluded Sept. 10, 1757, by the Duke of Cumberland with the French commander, Duc de Richelieu, by which the former, who had been defeated at Hastenbeck and was without means of retreat, agreed to disband his army and leave Hanover to the French. The English government refused to ratify the convention, and recalled Cumberland in disgrace, although he appeared to be carrying out George II.'s instructions.

Knapweed, *see* CENTAUREA.

Knaresborough, a tn. in the West Riding of Yorkshire, England, 17 m. N.N.W. of York. There are remains of an old castle, and a grammar school. There is also a 'dropping well' and S. Robert's Cave. The town manufactures linens and rugs. Pop. (1911) 5315.

Knee, the joint between the lower and upper leg, involving articular surfaces on the femur, tibia, and patella, or knee-cap. The articular surface of the femur comprises the greater part of the surface of the condyles, which are separated by a deep notch, while faint transverse grooves show the limit of their articulation with the patella. The patella is a heart-shaped bone; the wide upper part is concave and smooth, and is divided into two articular portions by a rounded ridge; the lower part is rough and non-articular. The joint is nearly surrounded by a series of ligaments of complex structure and movement. The ligaments are lined by the synovial membrane, which is the largest in the body. The movement of the knee is in general that of a hinge-joint, though a certain amount of rotatory movement is possible when the joint is moderately flexed. The mechanism of the joint is particularly adapted to maintaining the erect attitude, which involves extension of the joint. Notwithstanding the important and strenuous nature of its function, the knee-joint is comparatively free from injury, owing to the massiveness of the articulating members. The patella is liable to fracture by direct or indirect violence, and is still more liable to dislocation, which, however, is often reduced without much trouble. Persons of tuberculous constitution are liable to serious disease following upon any injury to the joint, and such injuries should be followed by careful treatment for a protracted period. A strain is often followed by inflammation of the synovial membrane, and this is apt to recur if the joint is subjected to violent treatment before perfect recovery. Hence the need for protracted rest in cases of 'water on the knee.'

Kneeling seems to have been the primitive Christian attitude for non-liturgical prayer, and also for penitents at the Liturgy, during the greater part of which the faithful stood. At other services K. seems to have been the custom in prayer except on Sundays and during Eastertide, *i.e.* until the octave of Pentecost. K. was then more like prostration and the terms are frequently used synonymously. The practice of standing at the Liturgy is now only retained in the Eastern Church. In the Roman and Anglican Churches, the people almost invariably kneel for prayer. While the celebrant receives the Sacrament standing, the people do so while kneeling.

Kneller, Sir Godfrey (1646-1723), a portrait painter, born at Lübeck. Studied for the army at Leyden, but subsequently became a pupil of Rembrandt and Ferdinand Bol at Amsterdam and of Carlo Maratti and Bernini at Rome. Came to London in 1674 and made an unrivalled reputation as a portrait painter, acquiring a considerable fortune. His portraits include Charles II., James II., William III., Queen Anne, George I., Peter the Great, Louis XIV., Charles VI. of Spain. He was knighted (1692) and made baronet (1715). In 1705 he settled at Whitton House, which is now national property and known as Kneller Hall (*see below*). A number of his works are to be seen in the National Portrait Gallery, London.

Kneller Hall, once the property of Sir Godfrey Kneller, now in possession of the state, is situated in Middlesex, half-way between Hounslow and Twickenham. It is a very fine example of Queen Anne architecture, and now serves as headquarters for the Royal Military School of Music.

Knibb, William (1803-45), a missionary, born at Kettering, and in 1824 went to Jamaica as a member of the Baptist Missionary Society. In 1832 he returned to England, and spent his time in trying to further the emancipation of slaves. He returned to Jamaica, where, with the exception of one or two other visits to England, he spent the rest of his life.

Knickerbocker Families, the term applied to the people of New York who are descended from Dutch settlers. The name arose from Washington Irving's *History of New York* (1809), 'Diedrich Knickerbocker' being his pseudonym.

Knife (A.-S. *cnif*, a cutting plement). Of the weapons and found as relics of the Stone Ag term knife is applied to sharpened flints which were designed to be held in the hand or mounted upon a short handle to give slightly more leverage for cutting. The manifold uses to which a K. can be put give it great importance in the development of races. As distinct from the dagger, which is always two-edged, the prime importance of the K. is its use as a tool; its use as a weapon can easily be seen to be secondary, as only its ready accessibility favours its adoption in preference to more specialised weapons. Bronze Ks. have been found amongst relics of the bronze period, and the use of iron was common long before hardened steel became the established material for the making of Ks. From a remote period in English history the manufacture of Ks. has been associated with the town of Sheffield, in Yorkshire. The earliest form of steel K., a blade of steel fastened rigidly to a wooden or horn handle, was followed by the jack K., which closed into a groove in the handle, in the 16th century. In the 17th century the pocket K., with spring back, was introduced, and has developed with increase in the number of blades and improvement in workmanship ever since. Ks. are made usually of shear steel, the various processes being forging, hardening, tempering, grinding, polishing, and finishing. Sometimes the less essential parts of the K., such as the tang by which it is fastened to the handle, are made of malleable iron which is welded to the cutting portion. Among various forms of Ks. may be mentioned pocket, table, carving, hunting, surgical, butchers', shoemakers', and pruning Ks. Many tribes of the Nile and Congo districts are very expert in throwing Ks. as a method of attacking animals.

Knight, Charles (1791–1873), an author and publisher, son of a Windsor bookseller. In 1812, in conjunction with his father, he established the *Windsor and Eton Express*, and also printed the *Etonian*. He commenced a busy career as publisher of good literature at low prices with the production of *The Plain Englishmen*, which he edited from 1820-22, in conjunction with E. H. Locker of Greenwich Hospital. Settling in London in 1822, he founded *Knight's Quarterly Magazine*, to which Macaulay and other rising literary men contributed. In 1827 he became associated with the Society for the Diffusion of Useful

popular biography of Shakespeare (1843). His *Popular History of England* was completed in 1862. In 1860 he was appointed publisher of the *London Gazette*. His active career as a publisher came to an end in 1864, but his work as an author continued to the close of his life. His other publications include: *The Library of Entertaining Knowledge*; *The Pictorial Bible*, 1836; *The Pictorial History of England*, 1837-44, etc. See *Life* by Alice Clowes (1892).

Knight, John Prescott (1803-81), a portrait painter, born at Stafford. He was a student of the Royal Academy in 1823, and exhibited his first picture in 1824, becoming an academician in 1844. He was professor of perspective at the Royal Academy from 1839-60, and secretary from 1848-73. His best-known work is the 'Waterloo Banquet' in the possession of the Duke of Wellington.

Knight, Joseph Philip (1812-87), composer of songs, born at Bradford-on-Avon. He produced his first songs at the age of twenty, and after this joined with Haynes Bayly in composing *The Veteran*; *She Wore a Wreath of Roses*, and many others. Of his independent efforts his best is *Rocked in the Cradle of the Deep*, 1839. He took holy orders after 1841, and was appointed to the charge of St. Agnes, Scilly Isles.

Knight, Richard Payne (1750-1824), a numismatist, born in Herefordshire. His journal which he kept when he visited Sicily with the German painter, Philip Hackert, was translated and published by Goethe in his biography of Hackert. His magnificent collection of bronzes, pictures, etc., were bequeathed to the British Museum. He was regarded as a connoisseur and authority on ancient art, and was vice-president of the Society of Antiquities. His works include: *An Account of the*

Remains of the Worship of Priapus ; An Inquiry into the Symbolical Language of Ancient Art and Mythology ; The Landscape (a didactic poem) ; and *An Analytical Essay on the Greek Alphabet.*

Knight, Thomas Andrew (1759-1838), a horticulturist, born in Herefordshire. He was awarded the first Knightian medal, founded in his honour in 1836, and was president of the Horticultural Society from 1811-38. He wrote : *A Treatise on the Culture of the Apple and Pear ; Pomona Herefordiensis,* 1811 ; and over 100 papers, some of which were published in 1841.

Knighthood, a word which in its origin was intimately bound up with the class of military tenants of the feudal system. It is purely a matter of antiquarian interest whether the term knight (O. E. or Saxon, *cníht,* a boy), ever superseded or was ever synonymous with the Latin *miles* or the *gesith* or *comes* of Tacitus, or whether it applied solely to the military tenants of a baron or earl exclusive of those of the king himself. For it is at least certain that under the feudal system as introduced by the Conqueror and developed under Henry II., the military strength of the nation was measured by the number and efficiency of the knights whom the king was able to summon to the field, and a knight then meant no more than a person whose holding of land was on condition of performing military service for the sovereign (knight's fee or tenure in chivalry). Chivalry was practically a synonym for K., but was not used with the same vulgarly utilitarian connotation, and is rather to be regarded as a semi-religious, semi-epic growth of the feudal system, which reached its flower of perfection during the Crusades. The Church early threw its ægis of solemnity over the formal investiture of a youthful knight into the profession of arms, and inculcated in him those virtues which we habitually associate with the word 'chivalry.' The institution of the celebrated military orders of the Knights Templars and the Hospitallers, or Knights of St. John, was the direct result of the Crusades. The members of these orders were pre-eminently and primarily Soldiers of the Cross, whatever charges of misgotten wealth, worldly living, idleness, and heresy may with justification be hurled against their representatives of a later age. These knights have ever in the popular imagination existed as a far more heroic, nay, almost legendary, class of men, than the mere tenants in chivalry of the feudal system. Nor is this remarkable, because their primary object being to repulse the infidel, their orders were essentially cosmopolitan and attracted the pick of knight errantry, and the honour of K. was conferred upon their members by various European monarchs quite irrespective of any property qualification, and for the most part purely on account of military distinction. But side by side with these orders existed the knights of the feudal system, and indeed this territorial K., as it may be termed, and chivalry in its more appropriate sense declined together. In England, even in the middle ages, K. was not by any means an unquestionably desirable honour, if, as contemporary chronicles show, the king was frequently obliged to resort to distraint to compel those who held knight's fees (land of about £20 annual value) to take the order of K., or prove that they were qualified to take the field as knights. This practice soon developed into a lever for inducing tenants to compound with the king by way of fine (*scutage*), and ultimately into a process for extorting money from those who would have been exempt at common law, which regulated the amount of a knight's fee by the sufficiency of the land to support a knight, and not by its fluctuating nominal value in a debased currency. This process of extortion by compulsory K. was revived in a truly anachronistic manner by Charles I. as a means of raising money without resorting to parliament, with the result that an Act was soon passed abolishing the prerogative of compulsory K.

At the present day the ancient military origin of K. is preserved in the continued existence of the accolade or symbolical ceremony of dubbing a man a knight by touching his head with the tip of the royal sword. This and a few other relics of chivalry as applied to a modern knight are, of course, utterly devoid of meaning in this material and industrial age. Ks. are conferred chiefly upon commercial plutocrats, assiduous civil servants, and successful party politicians, with only a very occasional concession to the claims of artistic distinction. War no longer affords the scope it did for the conferring of dignities, and, moreover, so strong is the universal desire for peace, that the quondam glories of martial strife so passionately sung in those classic epics and which form the life-blood of a genteel education, excite surprise in the modern mind rather than an answering chord of sympathy.

K. gives precedence over esquires and other untitled persons. 'Sir,' is prefixed to the baptismal name of knights and baronets, and their wives

have the legal designation of 'Dame,' which in modern parlance is converted into 'Lady.' Besides those who are simply knights there are others who are members of particular orders or classes which exist in most of the European states, and owe their foundation generally to some sovereign prince. Of this class of honorary associations are the British Orders of the Garter, the Thistle, St. Patrick, the Bath, the Star of India, St. Michael and St. George, and the Indian Empire. Similar continental orders, equally avid of the hallowed claims of an exalted, if generally legendary, antiquity are the Order of the Holy Ghost founded by Henry III. of France, and the Order of the Golden Fleece of Spain. Probably the most distinguished of the British Orders is that of the Garter. The pretensions of that of the Bath to an equal dignity of genesis are now generally agreed to be apocryphal in spite of Selden and Camden.

Knightsbridge, the name of a dist. of W. London, which extends into the borough of Westminster and also that of St. George's, Hanover Square.

Knight-Service, a system of land tenure in feudal days, which was introduced after the Norman Conquest. The king divided the land amongst his tenants-in-chief who rendered him K. in return, *i.e.* they had to provide so many knights for service in the field according to the amount of land (knights' fees) held, and were also liable to certain fees. Tenure by K. was abolished in 1660.

Knights Hospitallers, *see* HOSPITALLERS, KNIGHTS.

Knights of Labour, *see* TRADE UNIONS.

Knights of Rhodes and Malta, *see* HOSPITALLERS, KNIGHTS.

Knights of St. John of Jerusalem, *see* HOSPITALLERS, KNIGHTS.

Knights Templars, *see* TEMPLARS.

Knin, a tn. in Dalmatia, Austria, situated E.S.E. of Zara. Pop. (com.) 25,930.

Knittlefeld, a tn. in Styria, Austria, 30 m. W.S.W. of Gratz. Pop. 9947.

Knock, a par. and vil. of co. Mayo, Ireland, 5 m. N.N.E. of Claremorris. The church has been visited by pilgrims since Aug. 21, 1879, when it was announced that the Blessed Virgin had appeared there in bodily form. Pop. (1911) 3000.

Knock-knee, a condition in which the knees are close together and the feet widely separated. In infants it is usually the result of rickets and may be avoided by taking measures to keep the child from standing on its feet. General attention to health and nutrition is also necessary to counteract the predisposing cause. In older persons it is caused by undue pressure on the joint, owing to individuals of poor nutrition having to perform work beyond their strength. The weight of the body is transmitted through the outer condyle of the femur; if heavy loads are carried by a young person the ligaments of the knee fail to maintain horizontality in the joint. The outer condyle gradually diminishes in size owing to the increased pressure, and the inner condyle grows to a corresponding extent, causing the condition to become permanent. When observed in time massage and attention to the circumstances under which the undue pressure is sustained will tend to alleviate the condition.

Knockmealdown, a mountain range of Ireland, in the S. of Tipperary, and the N.W. of Waterford. Its length is 12 m., with an average width of 4½ m., and the summits reach about 2700 ft.

Knolles, Richard (*c.* 1545-1610), an [illegible] Oxford, [illegible] hool at [illegible] His *Generall Historie of the Turkes* . . . was published by Islip (1603), and later edited with additions by Rycaut (1700). K. translated Bodin's *De Republica* (Common Weal) in 1606, dedicating it to his patron, Sir P. Manwood. *See* Bliss, *Wood's Athenæ Oxon.*, ii.; Byron, *Works*, ix.; Johnson in the *Rambler*, No. 122; *Athenæum*, August 6, 1881.

Knollis (or **Knollys**), **Sir Francis** (*c.* 1514-96) an English statesman, descendant of Sir T. Knollys (*d.* 1435). He entered Henry VIII.'s service before 1540, became M.P. for Horsham (1542), fought for Edward VI. in Scotland, and was knighted in 1547. His strong Puritan views caused him to leave England in Mary's reign, but he returned under Elizabeth, and was sent by her on a mission to Ireland (1566), and later to take charge of Mary Queen of Scots. *See* Naunton, *Queen Elizabeth's Favourites*; Haynes, *Burghley Papers*, 1740; *Gent. Mag.*, Pt. i., 1846; Hayward, *Annals*, *Hatfield MSS.*, i.

Knollys, Francis, first Baron of Caversham (*b.* 1837), private secretary to King Edward VII. from 1870-1910 and to King George V. from 1910-12. He was gentleman-usher to Queen Victoria from 1868-1901, and groom-in-waiting to the late king when Prince of Wales from 1886-1901. He is a director of the Great Eastern Railway.

Knossus, Crete, *see* CNOSSUS.

Knot (Old English *cnotta*, from a Teutonic stem *knutt*, *cf.* knit), in cordage, an intertwined loop of rope,

cord, string, or any flexible material, used to fasten a rope to an object or to another rope. The various methods of fastening are known by the technical names of Ks., bends, hitches seizings, and splices, all of which, save the last, would be termed varieties of Ks. by the layman. 'Bends' and 'hitches' are methods of fastening ropes together or round spars, etc.; 'seizings' (French *saisir*) are ways of fastening two spars to one another by a rope, or two ropes by a third; 'splices' (*cf.* split) are made by weaving the ends of two ropes together (*see below*). These terms are often used somewhat arbitrarily, but, generally speaking, Ks. and seizings are permanent fastenings, but bends and hitches can be undone by straining the ropes in the opposite direction from that in which they were meant to bear strain. Ks. are employed in various industries, particularly on board ship and in the building trade in connection with scaffolding; the principle on which all are constructed is that the strain they bear shall serve to draw them tighter. There are many different kinds of Ks., most of them technical in nature and local in application; the ordinary individual does not use more than half a dozen different Ks. for any purpose. The commonest kind of K. is the 'overhand knot,' which is made by passing one end of a rope or string over and round a portion of itself, and then turning the end through the loop thus formed. A 'reef knot' is made by forming two overhand Ks. with different ends of the line; this K. will neither slip nor jam, whereas, if the overhand Ks. are made the same way, a 'granny' will be formed, which will jam if it does not slip. Among the various kinds of Ks. used on board ship for different purposes may be mentioned: figure of eight, bowline, running bowline, half-hitch, clove hitch, Blackwall hitch, double Blackwall hitch, cat's paw, marling-spike hitch, fisherman's bend, timber hitch, Carrick bend, sheet bend, single and double wall Ks., Matthew Walker, inside clinch, midshipman's hitch, Turk's head, Spanish windlass, shroud K., Flemish eye, racking seizing, diamond K., etc.

Splices are methods of fastening two ropes together in such a way that there is no great increase in size or decrease in efficiency and strength at the point of junction; there are three main kinds, the short splice, the eye splice, and the long splice. The short splice is formed by unlaying the strands of the rope for a short distance, 'marrying' them, and passing them over one strand and under the next, twice each way, with the aid of a marling-spike. Before being turned in a second time the strands are halved, the upper half only of each strand being turned in; all the projecting strands are then cut off neatly. An eye splice is made by unlaying the strands of the rope and placing them upon the same rope, spread at such a distance as to give the right size of loop for the eye required. A splice is then made in a similar manner, and when projecting ends have been trimmed, the part disturbed is bound tightly round with a hard line. In a long splice, not only are the ends unlaid for three times as long as in the short splice, but one of the strands of each rope is unlaid for a still further distance, thus making the splice firmer. In a scientific sense a K. is a physical line, *i.e.* a flexible inextensible line that cannot be cut, that cannot be deformed into a circle. J. B. Listing (1802-82) was undoubtedly the pioneer of the scientific study of Ks.; in his *Vorstudien zur Topologie* he gives in a few pages what is evidently only a précis of his observations on the subject. Professor P. G. Tait treated of Ks. according to their 'knottiness,' 'beknottedness,' and 'knotfulness,' in his paper to the Royal Society of Edinburgh (see *Transactions Roy. Soc. Edin.*, xxviii. 145, 1876-77). He applies the name of 'amphicheiral' (ἀμφί and χειρ) to Ks. which can be deformed into their own perversion, that is, their image in a plane mirror. It has been shown that any K. can be represented by three plane curves, none of which has double points and of which no two intersect, and C. F. Klein has proved (*Mathematische Annalen*, ix. 478) that Ks. could not exist in space of four dimensions. In addition to the works cited above, *see* Tom Bowling's *Book of Knots*, 1866; J. T. Burgess, *Knots, Ties, and Splices*, 1884, etc.

Knot, the name of the conventional nautical mile; the term comes from the knots which are used in the log-line by which the speed of a ship is calculated (for details *see* LOG). For the purposes of navigation, a mile of latitude is supposed to be equal in length to a minute of latitude. The nautical mile is thus the length of a minute of the meridian, and varies according to latitude, strictly speaking, although calculations in this country are based on the assumption that a K. is 6080 ft., as opposed to the statute mile, which is 5280 ft. The K. in the U.S.A. is reckoned as 6082 ft. 8 in. Ten cables make one K. in charting, etc., although the usual length of a cable is considered to be 600 ft.

Knottingley, a par. and urban dist.

of West Riding, Yorkshire, England, on the R. Aire, 3 m. N.E. of Pontefract. The industries are earthenware and glass bottle works, ropewalks and limestone quarrying. Pop. (1911) 6682.

Knout, a whip used in Russia for the punishment of criminals, said to have been introduced under Joan III. (1462-1505). There were various kind of Ks. One consisted of many thongs of skin plaited and interwoven with wire, ending in loose wire ends, like the cat-o'-nine tails.

Knowle: 1. A vil. in the co. of Warwickshire, England, 9¼ m. S.E. of Birmingham, and possesses a church dating from early times. Pop (1911) 4195. 2. A par. and dist. o Somersetshire, situated 2 m. fron Bristol. Pop. (1911) 20,150.

Knowles, James Sheridan (1784-1862), a dramatist, the son of James K., the lexicographer, after failing in several callings, turned as a last resource to the writing of plays, in which occupation he achieved considerable success. His tragedy of *Caius Gracchus* was produced at Belfast in 1815, and won much praise. Five years later his *Virginius*, suggested to him by Kean, was performed at Drury Lane. For Macready at Covent Garden he wrote *William Tell* (1825); and three years later was produced *The Beggar's Daughter of Bethnal Green*. His other plays were *Alfred the Great* (1831), *The Hunchback* (1832), and *The Love Chase* (1837). Though highly esteemed in his day, his work is not now held in much regard, and his plays are rarely performed. There is a biography by his son, Richard Brinsley K. (1872).

Knowles, Sir James Thomas (1831-1908), an editor, began life as an architect, in which profession he rose during a practice of thirty years to some eminence. When the Metaphysical Society was founded in 1869, K. acted as secretary. This position brought him into intimate relations with many of the leading men in the country, and his wide acquaintance was of great value to him when he accepted the editorship of the *Contemporary Review* in 1870. He resigned the editorship seven years later, and then he founded the *Nineteenth Century*, which, Gladstone, Tennyson, Huxley, Fitzjames, Stephen, Manning, and other celebrities contributing, was from the first a great success. He was made K.C.V.O. in 1903.

Know-nothings or American Party, a secret political association formed in the U.S.A. in 1852 for the purpose of preventing all but native Americans from holding office. It was primarily the result of foreign emigration, for about this time began the great immigration due to the Irish famine, and in the five years from 1845-50 there came in about as many aliens as had been received during the whole twenty years before. Added to this the great volume of the Irish immigration was Roman Catholic, and animosity to that church gave fire to American prejudice, hence the success of the K. In 1854 they carried the state elections in Massachusetts and Delaware, in 1855 elected governors and legislatures in New York and four New England states, and in 1856 eight of the thirty-two

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Knowsley, a par. and tn. of S.W. Lancashire, England, 5 m. W. of St. Helens. The mansion of Knowsley Hall has been, since the reign of Richard II., the seat of the Stanley family; it contains several art treasures, including Rembrandt's 'Belshazzar's Feast' and specimens of Rubens and Correggio. Pop. 1500.

Knox, John (*c.* 1513-72), a Scottish reformer, born in Giffordgate, Haddington, and from statements of K. himself it would appear that his father was a feudal dependant of the Earl of Bothwell. His mother's name was Sinclair. It was formerly believed that K. was born in 1505, and that he was the John K. who entered Glasgow University in 1522, but later opinions favour 1513 or 1514 as the date of his birth. Little is known of his early years, but it is known that during 1540-43 he acted as notary in Haddington, and in 1544 he became tutor to Francis and John, sons of Hugh Douglas of Longniddry and Alexander Cockburn of Ormiston. At the houses of Douglas and Cockburn and Crichton of Brunston, he met George Wishart, whose zeal in the Lutheran cause made a deep impression upon him. In 1546 Wishart was burned at St. Andrews for heresy, and K., having been in association with him, was compelled to take refuge in the castle of St. Andrews in the following year in order to escape arrest. The castle was then held by the murderers of Cardinal Beaton. At this time he was formally called to the ministry, and preached in the castle and parish church of St. Andrews, making a profound impression. A few months later the castle was surrendered to the French, and, in violation of the terms of surrender, K. and others were condemned to the French galleys. K. was a prisoner in France for eighteen months, and then, in Feb. 1549, he was released through the intervention of Edward VI. He went over to

England, and preached at Berwick-on-Tweed, Newcastle, and in Buckinghamshire. In 1551 he was made one of the six royal chaplains, and in that capacity he took part in the revision of the second Prayer Book of Edward VI. On the accession of Mary Tudor, K. crossed over to the Continent. From Dieppe he proceeded to Geneva where he spent most of the next eighteen months, interrupted only by short visits to Zürich and Frankfort-on-the-Main. At the latter place he ministered to the English refugees, but left owing to objections to his teaching. At Geneva he met Calvin, but was not so much impressed by Bullinger, whom he met at Zürich. He returned to Scotland in Sept., 1555, and it was about this time that he married his first wife, Marjory Bowes. He found the nobles of Scotland strongly inclined towards Protestantism, owing to the co-operation of the court with the policy of France. He proceeded to champion the cause of Protestantism with so much vigour and success that his opponent compelled him to quit the country, but not before he had laid the foundations of ultimate success. He was summoned by the bishops to appear at the Blackfriars Kirk in Edinburgh on May 5, 1556, but he came with so strong a following that the prosecution was abandoned. He returned to Geneva in July 1556, and during his three years' residence there he sent over to Great Britain a series of propagandist pamphlets, including his well-known *First Blast of the Trumpet against the Monstrous Regiment of Women*.

He returned to Scotland in 1559, and never left it again for any length of time. He found the Protestant nobles now in open revolt against the queen-regent, and he greatly advanced their cause by his powerful preaching at Perth, St. Andrews, and Edinburgh. He joined the qualities of a statesman with those of a divine, and he took no secondary part in the events that followed. It was mainly through his efforts that the aid of England was obtained in forcing the queen-regent to send the French soldiers out of the country. The death of the queen-regent about time occurred, opportunely for opponents, and Protestantism established as the religion of the country, K.'s Confession of Faith being formally adopted on Aug. 17, 1560. This was the state of things when Mary Stuart, with her entirely Roman Catholic leanings, came to Scotland in 1561. K., who had become minister of Edinburgh in the previous year, felt that he had a special duty towards her and a sermon which he preached at St. Giles, Edinburgh, in 1561, led to the first of his famous interviews with the queen, which he has so vividly described. Many of the nobles seemed disinclined to go the full length of K.'s Calvinistic ideals, but the misfortunes of the queen aided his aims considerably. K., nevertheless, remained in the background for a time, and after the murder of Rizzio he deemed it prudent to withdraw to Kyle in Ayrshire. After the murder of Darnley, K. came to the front again, and denounced the queen and Bothwell, acting once more with Moray from whom he had been estranged for a time. These events and the flight of the queen to England resulted in the final overthrow of Roman Catholicism in Scotland. K.'s work was now almost done. His imprisonment in France in earlier years had greatly impaired his health, and that, combined with his many years of strenuous agitation, began to tell upon him, but he was still a force to be reckoned with. James Melville draws a striking picture of the reformer in his later days at St. Andrews, where he was so weak that he had to lean against the pulpit on his first entry, but before the sermon was ended he was 'like to ding that pulpit in blads (fragments), and fly out of it.' His last public appearance was on Nov. 9, 1572, at the induction of his successor, Lawson, to St. Giles, Edinburgh. This effort greatly exhausted him, and he gradually sank, and died on the 24th of the same month. Two days later he was buried in the churchyard then attached to St. Giles, but now forming part of the courtyard of Parliament House. The spot where his remains lie is indicated by a plate bearing the initials I. K. K.'s first wife died in 1560, and in 1564 he married Margaret Stewart, then a girl in her 'teens. He was survived by his second wife and by all his children.

To modern minds K. presents the character of a rugged, stern, fierce reformer, in fact, almost a fanatic, yet he was the type of man needed for the age in which he lived. He had a great share in fashioning the destiny of his native country, and has left an

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one of its best examples in him. His eloquence and the virility of his utterances made him a valuable asset to the cause he championed, and his qualities of statesmanship made him more than a pulpit force. He was in no sense a pioneer in theology, but carried into practice the stern creed of Calvin. The regent, the Earl of Morton, said at his graveside, 'There

lies he who never feared the face of man, who hath been often threatened with dag and dagger, but yet hath ended his days in peace and honour; for he had God's providence watching over him in a special manner when his life was sought.'

See K.'s *Historie of the Reformation of Religioun within the Realme of Scotland* (1584), which is his most abiding monument as a writer. The standard edition of his works is that edited by David Laing for the Wodrow Society, and published in six vols. in 1864. *See also* K.'s *Correspondence*; Thomas M'Crie's *Life of Knox*, 1813; Carlyle's *Heroes and Hero Worship*; Lorimer's *John Knox and the Church of England*, 1875; P. Hume Brown's *John Knox*, 1895; Macmillan's *John Knox, a Biography*, 1905; Lang's *John Knox and the Reformation*, 1905; Glasse's *John Knox*, 1905; and Cowan's *John Knox*, 1905.

Knox, John (*c.* 1720-90), a Scottish philanthropist, for many years a bookseller in the Strand, London. He then retired to Scotland, devoting his energies to improving Scottish fisheries and manufactures, and making sixteen tours through Scotland (1764-75). His works include: *View of the British Empire* . . . (pub. anon.), 1784; *Observations on the Northern Fisheries* . . ., 1786; *A Tour through the Highlands* . . . *See* Buckle, *Hist. of Civilisation*, iii.; *Gent. Mag.*, Pt. ii. (1786-87), Pt. i. (1789), Pt. ii. (1790); *Imp. Dict.*, xii.

Knox, William (1789-1825), a Scottish poet. He became a farmer [illegible] 1812-17, and 1820, following [illegible]. His works include *Mariamne, or the Widower's Daughter* (prose); *The Lonely Hearth* . . ., 1818; *The Songs of Israel*, 1824; *The Harp of Zion*, 1825. His *Collected Poems* appeared in 1847. *See* Sir W. Scott's *Journal*, i.; Lockhart's *Life of Scott*, vi., 1837; Rogers' *Scottish Minstrel*, iii.

Knoxville, a city and the co. seat of Knox co., Tennessee, U.S.A., on the Holston R., 165 m. E. of Nashville. It has a beautiful situation, and is the centre of the marble trade of Tennessee. It also manufs. cotton and woollen goods, furniture, flour, iron goods, and other articles. Here is situated the University of Tennessee. Pop. (1910) 36,346.

Knoydart, a tn. of Nova Scotia in Pictou co., on Cumberland Strait, 18 m. W.N.W. of New Glasgow. Pop. 2000.

Knur and Spell, *see* TRAP AND BALL.

Knutsford, a market tn. in the co. of Cheshire, England. It lies 15 m. S.W. of Manchester. This town, supposed to have derived its name from Canute's ford, is very old and picturesque, and is described in Mrs. Gaskell's *Cranford*. It manufs. cotton, leather goods, and worsted. Pop. (1911) 5760.

Knysna, the name of a div. and tn. in Cape of Good Hope. The division comprises a strip of land on the S. coast of the prov., and the town, which is at the mouth of Knysna R., is 135 m. W. of Port Elizabeth. Pop. of div. 9000; of tn. 1600.

Kobdo, a tn. of W. Mongolia, situated on a plateau which is about 4000 ft. above sea-level. Pop. 6000.

Kobé, a tn. of Japan on the island of Hondo on the Bay of Osaka. It joins the city of Hyogo. In 1868 it was opened to foreign trade, and the city of Hyogo was opened at the same time, the former becoming the foreign residential quarter. Since 1892 the two towns have formed one. It possesses an excellent harbour, and has superseded other Japanese ports in trade and in the number of ships visiting the port. It has also an imperial shipbuilding yard. Pop. 378,197.

Kobeh, or **Kobi**, a tn. of Sudan, 35 m. W.N.W. of El-Fasher. It was at one time the capital of Darfur. [illegible] gov. of [illegible]da, 100 [illegible]. Pop. 11,800.

Koblenz, a fortress and tn. of Prussia, the cap. of the Rhine province, situated at the junction of the rivers Rhine and Moselle, 57 m. S.E. of Cologne. The chief buildings of note are the royal palace, finished in the latter half of the 18th century, and a statue of the Emperor William I. A large amount of wine is produced in the town, and there are also piano and machine factories. Pop. 56,476.

Kobold, *see* GOBLIN.

Kobresia, a genus of Cyperaceæ, contains less than half-a-dozen species, flourishing in Europe and Asia. *K. caricina* occurs on British moors.

Kobrin, a tn. in the Grodno gov., Russia, 100 m. S.E. of Grodno. The inhabitants are engaged in tanning and the making of bricks. Pop. 10,000.

Koburg, *see* COBURG.

Koch, Pali, or Rajbansi, a race of India of aboriginal descent, which inhabit N.E. Bengal and Assam. They are probably of Mongolian stock. The wealthier members of the race pretend to be descended from Siva, and claim the title of Rajbansi or sons of kings. The name K. is preserved in the independent state of Kuch (or Koch) Behar. They number about 2,000,000.

Koch, Charles Paul de (1794-1871),

a French novelist, more popular abroad than in France itself. His novels deal mostly with Parisian middle-class and low life in a witty and realistic manner. Among the chief are: *Georgette ...*, 1820; *Gustave; Mon Voisin Raymond ; André le Savoyard*, 1825 ; *Le Barbier de Paris*, 1826. See *Mémoires*, 1873 ; Trimm, *Vie*, 1873.

Koch, Karl (1809-79), a German botanist and traveller, born at Weimar, studied at Wurzburg and Jena. Travelled through Russia, Turkey, and Armenia; was assistant professor of botany at Jena (1839-43). His works include : *Dendrologie*, 1869; *Beiträge zu einer Flora des Orients*, 1854 ; *Das natürliche System der Pflanzenreiches*, 1839.

Koch, Robert (1843-1910), a celebrated German physician, founder of modern bacteriology, educated at Göttingen. He isolated the bacillus of anthrax (1876), later proposing a means of preventive inoculation against the disease. In 1882 he discovered the bacillus of tuberculosis, and led the cholera expedition to Egypt and India (1883), finding the cause of cholera in the comma bacillus. K. was professor at Berlin University (1885) and director of the Institute for Infectious Diseases (1891). He prepared tuberculin (1890-91), a lymph or 'paralotoid' by which he hoped to effect a cure for phthisis, but it has failed to prove a remedy though valuable as a diagnostic agent. K. held that there was a distinction between tuberculosis in man and in cattle, and denied the possibility of transmission of the disease from one to the other. The English Royal Commission Reports on Tuberculosis (1904, 1907, 1909, 1911) strongly support the opposite view. In two visits to S. Africa (1896 and 1903) K. studied the 'rinderpest' (cattle-plague), investigated malaria and its causes in German E. Africa (1897), and the W. African 'sleeping-sickness' (1905-6). His works in- [illegible] über die [illegible] schrift für Hygiene... krankheiten. *See* Becker, *Robert Koch*, 1891; Loeffler, 'Robert Koch' in *Deutschen medizinischen Wochenschrift* (No. 50), 1903.

Kochi, a tn. of Japan, situated on the S.E. coast of Shikoku, 135 m. S.W. of Kobé. It is noted especially for coral. Pop. 38,279.

Kochlowitz, a tn. in the prov. of Silesia, Prussia, 31 m. E.N.E. of Ratibor. Pop. 7190.

Kodak, a photographic camera of special type for taking instantaneous negatives. It is extremely easy to use, and is small enough to be carried about in the hand.

Kodiak, *see* KADIAK.

Kodok, *see* FASHODA.

Kodungalur, or **Cranganore**, a tn. in Cochin state, Madras, British India, 17 m. N. of Cochin. It was supposed to be the place where St. Thomas first laboured, but there is no foundation for this statement. It originally belonged to the Portuguese, but was captured afterwards by the Dutch. Pop. 30,000.

Koeleria, a genus of Gramineæ, contains fifteen species, all of which flourish in temperate lands. The sole representative in Britain is *K. cristata*.

Koesfeld, a par. and tn. of Westphalia, Prussia, situated in the circle Koesfeld, 19 m. W. of Münster. Manufs. textile goods. Pop. 9420.

Koffyfontein, a mining camp in the Orange Free State, S. Africa, situated 30 m. N.W. of Fauresmith. Pop. 5900.

Köflach, a tn. in Styria, Austria. *There are coal mines in the vicinity.* Pop. about 3400.

Kohat, a tn. in the Kohat dist. of the N.W. Frontier prov., India, 37 m. S. of Peshawar by a military road which was opened in 1901 along the Kohat Pass. It is the military base for the S. Afridi frontier. Pop. 30,800.

Koh-i-nûr, one of the most famous diamonds in the world. When presented to Queen Victoria in 1850, it weighed 186½ carats, but by recutting it was reduced to 106⅛ carats. It is considered by some to be a portion of the Great Mogul diamond which was in the possession of Aurungzebe in 1665. The K. belonged in 1739 to Nadir Shah, was in the possession of the rajah of Lahore in 1813 and was presented to Queen Victoria by the East India Company in 1850

Kohistan (land of mountains) the name given to mountainous regions in Persia, Afghanistan, India and Turkestan. In Persia it is part of the prov. of Khorassan, and in India it comprises the mountains in the north-western part.

Kohl, Johann Georg (1808-78), a German traveller and author, born at Bremen, where he ultimately became city librarian. Between 1838 and 1854 however, he visited all the chief districts of Europe and wrote descriptions of them. He visited America (1854-58) and made a series of maps for the government

Kojetein, a tn. of Moravia, Austria, 32 m. E.N.E. of Brünn. Pop. 6333.

Kokomo, a city and the cap. of Howard co., Indiana, U.S.A., 60 m. N. of Indianapolis. It has glass and steel works, and manufs. iron and rubber goods. Pop. (1910) 17,010.

Koko-nor, or Kuku-nor (Blue Lake), a lake and region of Central Asia. The lake lies between the Kuen-lun and the Nan-shan Mts. in the extreme N.E. of Tibet, near the boundary of the Kansu province. It is 60 m. in length, 40 m. in width, and is at an altitude of 9976 ft. It has no outlet, and its waters are salt and bitter, being frozen for three months of the year. The region of K., which lies between Tibet, China, and the Gobi desert, is sometimes taken to include Tsaidam and the plateau of Odontala.

Kokra-wood and Coco-wood are terms applied to the wood of the *Inga vera*, a leguminous tree found in the West Indies, and also to that of *Aporosa dioica*, a Bengalese and Burmese tree of the order Euphorbiaceæ.

Kokura, a seaport tn. in Kiushiu, Japan, 100 m. N.E. by N. of Nagasaki. Pop. 37,000.

Kola, a tn. in the gov. of Archangel, situated on the peninsula of Kola, and is the most northerly town in Russia. Pop. about 600.

Kolapur, *see* KOLHAPUR.

Kolar: 1. The cap. of Kolar dist. in Mysore, India, 43 m. E. of Bangalore. Turkey-rearing for export is carried on, and the manufacture of blankets. Pop. 13,500. The K. gold fields in the district had an output of over 500,000 oz. in 1909. The district has an area of 2845 sq. m., and a pop. of 750,000. 2. A large freshwater lake, situated midway between the deltas of the Kistna and Godaveri Rivers, in the Madras Presidency. It drains into the Bay of Bengal on the E. The area is 100 sq. m., but this is being reduced by embankments, etc. In the dry season traces of ancient villages may be observed in its bed.

Kolarians, the name given by Sir G. Campbell (1866) to various hill-tribes of Central and E. India (c. 2,000,000-3,000,000 in number), dwelling in the jungle and mountain districts W. and S.W. of Calcutta in the Bengal Presidency. They represent the most primitive element in the population of Hindustan, and were probably some of the earliest inhabitants of the peninsula. There are about ten chief tribes and Kolarian languages, including the Munda-Kols of Chota Nagpur, the Larka-Kols or Ho of the Singbhum district, the Bhumij of W. Bengal, the Santals, the Karia, and the Juang or Patun. These latter are the lowest type, mere hunters and fruit-gatherers with very little civilisation. 'Kol' is the basis of the word 'coolie,' these people being very ready to hire themselves on the contract system. Some ethnologists class K. with Dravidians, but the former are far less cultured, and their language is radically different. *See* Nottrott, *Grammatik der Kolh-Sprache*, 1882; Cust, *Modern Languages of the E. Indics*, 1878; Rowney, *Wild Tribes of India*, 1882; Caldwell, *The Languages of India*, 1875; Gait and Risley in *Census of India*, 1901, 1903; Dalton, *Descriptive Ethnology of Bengal*, 1872.

Kolberg, or Colberg, a seaport of Pomerania, Germany, 2 m. from the Baltic, 76 m. N.E. of Stettin. There are iron foundries and saw mills, and manufactures of woollens, spirits, and machinery; salmon and lamprey fishing is carried on. K. is one of the oldest towns in Pomerania, and was formerly capital of the duchy of Cassubia. It was captured by the Swedes in 1631, attacked by the Russians in 1758, 1760, and 1762, and by the French in 1806. Pop. 24,909.

Kolding, a tn. of Jutland, Denmark, situated in Vejle co., on the Kolding Fiord, 29 m. S.S.W. of Horsens; the depth of the harbour is 20 ft. The royal castle of Koldinghus, dating from 1248, was burnt down in 1808. Pop. 14,219.

Kolguef, or Kalguef, an island in the gov. of Archangel, Russia, extending from 66° 42′ to 69° 30′ N. lat., and from 48° 15′ to 49° 55′ E. long. It is visited by hunters for walrus, white bears, and various species of birds. Area 1350 sq. m.

Kolhapur, or Karvir, a feudatory state in the Bombay Presidency of British India. It extends from the midst of the Western Ghats into the Plain of the Deccan; iron ore is found and stone is quarried. The state is level in the E., and the sugar cane, rice, cotton, tobacco, and vegetables are grown; there are manufactures of hardware and pottery. The state, which is well governed and prosperous, has an area of 2816 sq. m. and a pop. of 930,000. The cap. of the state, Kolhapur, is a picturesque town with several fine public buildings. It was formerly a Buddhist centre, and many Buddhist remains are to be seen in the town and vicinity. Pop. 60,000.

Kolin, or Neu-Kolin, a tn. of Bohemia, Austria, on the Elbe, 40 m. E. of Prague. It has steam mills, breweries, sugar refineries, and manufactures of starch, syrup, and potash. Pop. 16,442.

Kolivan, a tn. in the gov. of Tomsk, Siberia, Russia, on the R. Ob, 120 m. S.W. of Tomsk. Pop. 12,000.

Kollumerland, a com. in the prov. of Friesland, Netherlands, 17 m. N.E. of Leeuwarden. Pop. (com.) 7808.

Kolmar, or **Colmar**, a tn. of Alsace-Lorraine, Germany, on the R. Ill, 40 m. S.S.W. of Strassburg. A branch of the Rhine and Rhone Canal passes through the town. The manufs. include cottons, woollens, silks, jute, and there are dyeing, brewing, tanning, and coach-building industries. From 1697 to 1871 the town was held by the French. Pop. 43,808.

Kolmar, or **Chodziesen**, a tn. of Prussia, in the prov. of Posen, and 40 m. N. of that town. Pop. 7161.

Köln, *see* COLOGNE.

Kölnische Zeitung, a German daily newspaper, published at Cologne, with three editions daily. It is of very long standing, having been published for more than two centuries, with the exception of a short break between 1809 and 1813, when it was suspended by Napoleon. It has always been noted for its enterprise in obtaining reliable news at an early date, and has been constantly associated with the cause of Liberalism. Its most distinguished editor was Joseph Dumont, who accepted the post in 1847 and conducted the paper through the stormy period following on the revolution of 1848. The paper gives great prominence to the debates in the German Reichstag, and has frequently been the vehicle of semi-official communications by Bismarck and other German chancellors.

Kolo, a tn. in the gov. of Kalisz, Russian Poland, 45 m. to the N.E. of Kalisz. Pop. 6000.

Kolomea, a tn. of Austrian Galicia, on the R. Pruth, 45 m. W.N.W. of Czernowitz, at the foot of the southern slope of the Carpathians. It has petroleum refineries and potteries. Pop. 40,520.

Kolomna, a tn. of Central Russia, on the R. Moskva, 72 m. S.E. of Moscow. It is an industrial town, having starch works, cotton and silk mills, tanneries, manufactures of tobacco, silk, leather, and earthenware, and a trade in hides, tallow, and grain. The marmalade 'postilla' is made here. Pop. 22,000.

Kolozsvar (Ger. *Klausenburg*), a tn. and episcopal see of Transylvania, Hungary, 248 m. E.S.E. of Budapest, on the Little Szamor R. Formerly the capital of Transylvania, it is now the capital of Kolozs co. The town is well built and has a Gothic church, university, muse
There are two
Unitarian the other of the Reformed Church; the town is the literary centre of Transylvania and has many educational establishments. There are manufs. of linen and woollen goods, earthenware, beer, sugar, paper, and soap. Pop. 50,000.

Kolpino, a tn. in the gov. and 17 m. S.E. of St. Petersburg, on the Izhora R. It has government iron works. Pop. 8500.

Kolyma, a riv. of Eastern Siberia, rising in the Stanovoi Mts., flowing into the Arctic Ocean in 69° 40′ N. after a course of 1110 m.

Kolyvan, *see* KOLIVAN.

Kom, *see* Kum.

Komarno, a tn. of Galicia, Austria, 20 m. S.E. of Lemberg. Pop. 6000.

Komarom, or **Komorn**, a tn. of Hungary, and cap. of the co. of Komarom, at the confluence of the Danube and the Waag, about 48 m. W.N.W. of Budapest. The fortress is situated quite near the town, the fortifications having been constructed by Matthias Corvinus. It was successful against the Austrians in 1848-49. Pop. 17,000.

Komati, a riv. of S.E. Africa, which flows first E. through the Transvaal, then N. near the eastern frontier of the Transvaal, discharging into Delagoa Bay.

Komatsu, a tn. of Japan, situated near the N.W. coast of Hondo, 117 m. N.N.E. of Kyoto. There are manufactures of silk gauze, and most of the clay for the Terai and Kanagawa potteries is obtained here. Pop. 13,500.

Komorn, Hungary, *see* Komarom.

Komotau, a tn. of Bohemia, 21 m. S.W. of Teplitz, on a tributary of the R. Eger, at the foot of the Erzgebirge. The central factory for the manufacture of railway plant, etc., in Bohemia is here; paper making and the manufacture of silk is carried on, and there are oil mines near. Pop. 19,545.

Komura, Count **Jutaro** (*b.* 1855), a Japanese statesman and diplomatist, born at Huiga. He finished his education at Harvard University, from which he graduated in 1877. In 1884 he entered the Foreign Office at Tokyo; he afterwards became *chargé d'affaires* at Peking, and then Japanese minister at Seoul. He filled similar posts subsequently at Washington, St. Petersburg, and at Peking at the time of the Boxer troubles; during this time he earned a high reputation for diplomatic ability and talent. In 1901 he was appointed Minister for Foreign Affairs, and contin
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signed, and in November of the same year he met the Chinese representatives at Peking, when the treaty of

Peking was signed. It was in great measure through his exertions that the second Anglo-Japanese alliance was concluded. In consideration of these services he received from his sovereign the Japanese title of count, and was created a K.C.B. by King Edward VII. In 1906 he resigned from his ministership and, becoming a privy councillor, came as ambassador to London. In 1908 he returned to Tokyo, and was again Minister for Foreign Affairs in the second cabinet of Prince Katsura.

Konakry, the cap. of French W. Africa, situated on the island Tombo at the mouth of the Dubreka, in latitude 9° 30′ N. and longitude 13° 40′ W. It is connected with the mainland by an iron bridge. Rubber trees and coffee are cultivated, and the town has many factories.

Kong: 1. A tn. in the Kong co. of French W. Africa, situated in latitude 8° 55′ N. and longitude 4° 10′ W. In 1893 the protectorate was attached to the Ivory Coast colony. K. has a trade in cloth and gold. Pop. 13,000. 2. The name given to a range of mountains which were supposed to run parallel with the Guinea coast of W. Africa. The expedition of Captain Binjer, in 1888, discovered that such a range did not exist, but that the region is of a plateau nature with peaks reaching 6000 ft.

Kongju, a tn. of Korea, situated 80 m. S. by E. of Seoul. Pop. 36,000.

Kongmun, a tn. of China, in the prov. of Kwang-tung, situated near the Hsi Kiang R., 47 m. S.S.W. of Canton. Pop. 62,000.

Kongsberg, a tn. in the Norwegian prov. of Buskerud, 43 m. W.S.W. of Christiania, on the R. Laagen. It has government silver mines, discovered in 1623, iron mines, a royal mint, manufs. of arms and gunpowder, and a fine church. Pop. 6000.

Konieh, or Konia (ancient *Iconium*), a walled tn. of Asia Minor, situated at the S.W. extremity of the central plain, 143 m. S. of Angora. K. is an archiepiscopal see of the Greek Church, and has manufactures of woollen goods, leather, and carpets. There are many interesting ruins in the town. From 1097, when Nicæa was captured by the Crusaders, K. was the capital of the Seljuk sultans. The town was much visited by fugitives from Persia, etc. At the time of the Mongol invasion the Osmanli empire captured it in 1472. Of recent years the prosperity of K. has increased. Pop. 60,000.

Königgrätz, a tn. of Bohemia, Austria, on the Elbe, 65 m. E.N.E. of Prague. It is famous for its battle in 1866, in which the Prussians were victorious over the Austrians: this was known as the battle of Sadowa. Pop. 11,064.

Königinhof (Bohemian *Dvur Kra'love*), a tn. of Bohemia, on the l. b. of the Elbe, 70 m. N.E. of Prague. It has cotton and linen manufs. Here, in 1817, were discovered the famous Koniginhof MSS., and in 1866 the Prussians defeated the Austrians. Pop. 15,062.

Königsberg: 1. A tn. and fortress, cap. of E. Prussia, on the Pregel, 5 m. from the Frisches Haff and 25 m. from Pillau on the Baltic. It consists of three main parts: the Altstadt (which grew up round the castle of the Teutonic knights, 1255), the Kneiphof, and Löbenicht. From 1525-1618 it was the residence of the dukes of Prussia, and is now the second capital and residence of the kings of Prussia. Its river communication with Pregel, the Kurisches Haff, and Memel make it very important. Among its chief buildings are the Gothic cathedral (founded 1333) with the 'Stoa Kantiana' adjoining, the university (1544), famous since the time of Kant (1724-1804), and the Schlosskirche, where both Frederick I. and William I. were crowned. Hemp, flax, tow, flour, corn, sugar, and timber are among the exports; coal, iron, and herrings among the imports. There are also manufactures of machinery, iron ware, bricks, lime, yarns, woven textiles, wood pulp, chemicals, and leather. The marchpane (marzipan) of K. is famous. Pop. 245,963. *See* Schultze, *Königsberg und Ostpreussen zu Anfang* 1813, 1901; Gordak, *Wegweiser* [illegible]

2. A tn. of [illegible]
35 m. S.W. o[illegible]

Königsfeld, a tn. of Moravia, Austria, 3 m. N.N.W. of Brünn. Pop. 13,082.

Königshütte, a tn. of Prussia in the prov. of Silesia, 6 m. S. by E. of Beuthen. It has the largest iron works in Silesia, zinc and steel works, and the manuf. of glass and bricks is carried on; there is also a trade in coal and timber. Pop. 72,640.

[illegible] Aurora, Countes[illegible]ster of Count K[illegible]N. Germany. Sh[illegible] of Augustus the Strong of Poland, and had a son by him, the famous Marshal de Saxe. In 1697 she was made abbess of Quedlinburg, but lived in Dresden, Berlin, and Hamburg. Her beauty was as remarkable as her intellectual qualities, and she was described by Voltaire as the most famous woman of two centuries.

Königsmark, Philipp Chrisopher, Count of (1662-94), a Swedish officer of noble birth, and friend of Augustus

of Saxony. He is chiefly remembered as the lover of Sophia Dorothea, wife of the electoral prince, George of Hanover, who afterwards became George II. of England. On the discovery of the intrigue K. was assassinated.

Königssee, a lake in the extreme S.E. of Bavaria, surrounded by precipitous walls of rock, among which is the Watzmann Mt. (*8800 ft.*). In the midst of the waters is the castle of St. Bartholomew. The lake has a length of 5 m., a perimeter of 17 m., and a depth of over 700 ft., and drains ultimately into the Salzach, a tributary of the Inn.

Königsstuhl, the name of the summit of the chain of the Black Forest, on the r. b. of the R. Neckard, having an altitude of 1900 ft. above sea-level. In ancient times it was here that the electors of Germany used to choose their emperor.

Königstein, a tn. in the kingdom of Saxony, situated close to the l. b. of the Elbe, 22 m. S.E. of Dresden. Its fortress is built on a rock 1180 ft. above sea-level and 450 ft. above the surrounding country, and is one of the few in Europe never taken; the royal treasures were sent here during war, and it is now used as a state prison. Paper making is carried on in the town. Pop. 3924.

Königswinter, a tn. in the Rhine province, Prussia, situated on the r. b. of the Rhine, with the Drachenfels behind it. Pop. about 4000.

Konitz, a tn. in the circle of Konitz, Prussian province, W. Prussia, 43 m. N.N.W. of Bromburg. It has sawmills, iron foundries, woollen factories, and tile works. Pop. 12,010.

Koniz, a com. of Switzerland, situated in the canton of, and 3 m. to the S.W. of, Bern. Pop. 7683.

Konkan, or Concan, a tract of country in the Bombay Presidency, India, extending for 200 m. near the sea from Goa to Daman, and varying in width from 1 to 50 m. Rice fields and cocoanut plantations are generally cultivated, and the district is subject to violent monsoon rains. Area 17,000 sq. m. Pop. 3,000,000.

Konotop, a tn. of Russia, in the gov. of, and 83 m. E.S.E. of the city of, Chernigov. It was the chief Polish frontier fortress from 1635 to 1648. Pop. 27,000.

Konrad von Würzburg, *see* CONRAD VON WÜRTZBURG.

Konstantinhafen, a station of the German New Guinea Company, situated on the S.E. side of Astrolabe Bay on the N.E. coast of Kaiser Wilhelm Land, New Guinea Cotton, coffee, and cacao are cultivated.

Konstanz, *see* CONSTANCE.

Koodov, *see* KUDU.

Koomassie, *see* KUMASSI.

Kooringa, or Burra, a tn. of Burra co., Australia, on Burra Creek, 85 m. N.E. of Adelaide. The first copper mine worked on a large scale, Burra-Burra, dating from 1845, is near, and silver is also found. Pop. 3000.

Kootenay Lake, a lake of British Columbia, situated to the E. of 117° W. long. It is about 60 m. long and varies in width from 1 to 4 m.

Kootenay River, a riv. of British N. America, which rises in the Rocky Mts., British Columbia; to the N. of 51° there are several branches, which, when united, flow in a southerly direction parallel to the Columbia R. After [illegible] to the N.W. again into the Kootenay Lake (*q.v.*) after a course of *400* m. In its upper course it is very rapid, and navigation is only possible in about 30 m. near the Kootenay Lake. Gold and iron deposits are found in its basin.

Kopais (ancient *Topolias*), formerly a marshy lake of Greece in the prov. of Bœotia, formed by the waters of the R. Kephissus. Tunnels were cut through the mountains to drain the lake, and this was satisfactorily accomplished in 1893, forming a fertile plain of 100 sq. m. in area.

Kopek, or Copek, the name of a small Russian copper coin, worth the hundredth part of a rouble (*2s.*).

Köpenick, or Copenick, a tn. in the prov. of Brandenburg, Prussia, 8 m. S.E. of Berlin, on an island in the Spree. There are manufs. of shoddy, chemicals, glass, linoleum, carpets, and sugar; and saw and flour mills. Pop. 30,882.

Kopparberg, or Falun, a län or dist. of Central Sweden to the N.W. of Stockholm. There are lead, zinc, iron, and copper mines. The cap. is Falun. Area 11,522 sq. m. Pop. 233,874.

Kopreinitz, Hungary, *see* KAPRONCZA.

Koprili, Koprülü, or Kuprili, a tn. in the [illegible] Europ[illegible] Varda[illegible] ft. It [illegible] Pop. 15,000.

Köprili, or Köprülü, an Albanian family, several of whose members became celebrated Turkish statesmen. The most famous are: *Mohammed* (1585-1661), who became Grand [illegible] Turkey could no longer resist the

forces of the German empire, he concluded the treaty of Carlowitz (1699). *Ahmed* (1630-76), son of Mohammed, became prominent at an early age, and was made Grand Vizier in 1656. He resolutely opposed the Imperial forces and invaded Transylvania. Though he was unsuccessful in the field, sustaining defeat at St. Gotthardt, he succeeded in obtaining the peace of Vasvar, by which the Turks retained the fortress of Grosswarden. *Mustafa* (*c.* 1640-91), brother of Ahmed, who saved the life of Soliman III. during the rebellion against Sultan Mohammed IV., and was on the former's accession made Grand [illegible] us camforces, [illegible] Servia, and capturing Belgrade and assisting Emerich Tököly to become king of Hungary.

Kopyczynce, a tn. of Galicia, Austria, 33 m. S.S.E. of Tarnopol. Pop. 7350.

Korah, an Israelite, the story of whose rebellion against the sacerdotal pretensions of the Levites is told in Num. xvi. Here we read how, on account of their rebellion against Moses, Korah, Dathan, and Abiram were all destroyed at the word of Moses.

Koran, The (Arabic *karaa*, to read), the sacred book of Islam, consists of the 'Revelations' received, according to its founder Mohammed, from God, and compiled after the prophet's death by his secretary, Zaid-ibn-Thabit, by order of the Caliph Abu Bekir. The book is written in Arabic, and consists of 114 suras or chapters of varying length, which are arranged according to size, the longest first. They are not numbered, but bear distinctive headings, such as the Cow, the Star, Congealed Blood, etc., taken from the particular chapter. Every chapter but one begins with the formula, 'In the name of God, the Merciful, the Compassionate.' It is generally stated whether the sura was revealed at Mecca or at Medina. The chief doctrines contained in the book are that there is one God, one true religion, and a day of judgment, and that at certain times God sent prophets to bring men back to the truth, the greatest being Moses, Christ, and Mohammed. There are vivid pictures of rewards and [illegible] stories taken from [illegible] Apocrypha, and th[illegible] there are special la[illegible] particularly as to complete resignation to God's will. The Jewish influence is very evident throughout, and Mohammed's ideal was to unite in one the three chief religions he found in his country, Judaism, Christianity, and Heathenism. The K. is held in the utmost reverence by all Moslems. See *The Koran*, trans. into English by E. Sale; and *The Koran, its Composition and Teaching*, by Sir W. Muir.

Korannas, Koranas, Koras, or Koraquas, a tribe belonging to the Hottentot family, though with an admixture of foreign elements, which dwells along the Orange R. and in Cape of Good Hope. They revolted in 1882 and were forcibly suppressed. They are indolent in temperament, and given to drinking and theft.

Korassan, *see* KHORASSAN.

Korat, the cap. of the prov. of Nakawn Racha Sema, Siam. It lies 170 m. N.E. of Bangkok, with which it is connected by rail. It is situated in a silk-producing district. Pop. 7000.

Kordofan, a prov. of Anglo-Egyptian Sudan, between Darfur and the White Nile. The surface is flat, save in the S., where are the Jebel Nuba Mts. During the rainy season, which lasts from June to September, the vegetation is luxuriant, but in the dry season the country is almost a desert. The climate is fairly healthy. Groundnuts, cotton, tobacco, and millet are grown, and ostrich feathers, gum arabic, hides, and ivory are exported. The most important tribes are the Nubas, Kababish, and Hasanieh. The capital is El Obeid. Area 130,000 sq. m. Pop. 500,000.

Korea, or **Corea** (*Cho-sen, Dai Han*), now forming part of the Japanese empire, is a peninsula of E. Asia, lying S. of Manchuria, between the Yellow Sea and the Sea of Japan. It is about 600 m. long by 135 m. wide. A cordillera traverses the peninsula throughout its length; the mountains slope precipitously and are very near the coast on the E. side, leaving only a narrow strip of land available for cultivation. On the W., however, the mountains have a gentler slope, and as this portion is well watered, it is exceedingly fertile. The highest point in the range of mountains reaches 8700 ft. Many bays and harbours are found round the W. coast, and many islands; on the S. and E. coast harbours are not so numerous. The tides are strong and the water shallow off the E. c[illegible] and alm[illegible] the Yal[illegible] [illegible] icipal crops are wheat, cotton, [illegible] llet, and hemp. The fauna [illegible] stags, hares, foxes, wolves, sables, tigers, and panthers. The manufactures of K. include silk, pottery and porcelain, and swords. Oxen are generally used in agricultural work. The cultivation of cotton on a large scale was begun by the Japanese in 1905, and has been

continued with success. Since the commencement of the 20th century the trade of K. has increased considerably. The minerals of the country include coal, iron, silver, crystal, talc, and gold, of which £901,675 was exported in 1910. The chief imports of the country are cotton and woollen goods, metals, and firearms; the chief exports are ginseng, beans, rice, cotton, silk, cattle, and hides. The value of the former in 1910 was £4,061,175, and of the latter £2,032,825 (exclusive of gold). The principal railways are from Seoul to Fu-san (a distance of 267 m.), from Fu-san to Masan-po, from Seoul to the Yalu (300 m.), and from Chemulpo to Seoul (30 m.), besides several branch lines. The total mileage in 1911 was 674. The railways are all the property, and under the control, of Japan. The treaty ports are Seoul, Chemulpo, Fu-san, Gensan, Mokpo, Chenampo, Kunsan, Ping Yang, Songchin, Yongampo, Chunjin, Shinwiji, and Wi-ju. The privilege of owning mines in K. was extended to foreigners by the Mining Regulations of 1906. Koreans belong to the Mongol family, but are distinct in features, dress, and customs from both the Chinese and Japanese. The former language is much used f[illegible] though there is [illegible] Eh-mun. The [illegible] to the Turanic [illegible] and is polysy[illegible] vowels and fou[illegible]

capital of the country from 910 to 1392 was Singdo; Seoul, with a population of 278,958, is now the capital. The native annals date back to 57 B.C., but until the 4th century have little historical value. The country was divided about the first century A.D. into the three kingdoms of Kokuryŏ in the N.W., Pèkché in the S.W., and Silla in the E. Silla overcame the other provinces and conquered the Japanese province of Mimana in the S. some time in the 4th century. From this time until the 10th century the country was very prosperous; Buddhism was introduced from China, together with various arts of Chinese civilisation. Kokuryŏ overcame Silla in the 10th century, and conquered the peninsula. K. aided Kublai Khan as a vassal of China in his futile invasion of Japan in the 13th century. In 1392 was founded the dynasty which reigned until 1910, and the country was named Cho-sen. During the 14th century Confucianism was established as the state religion instead of Buddhism. From 1592-97 the Japanese occupied K., but were driven out by the Chinese. Christian missionary effort was begun at the end of the 18th century, but until relations had been opened with foreign countries the missionaries were severely persecuted. Treaties were made with Japan in 1876, with U.S.A. in 1882, and with Great Britain in 1883, and with most European countries subsequently. In 1894 the Japanese and Chinese invaded the country to put an end to the unsettled conditions that prevailed. The Chinese were soon crushed, and by the peace of Shimoroseki, 1895, K. was declared independent, the island of Formosa was ceded to, and an indemnity of £35,000,000 extracted by, Japan. The king in 1899 changed the name of Korea to Dai-han, and assumed the title of emperor. By the treaty of Portsmouth, K. was formally made a suzerainty of Japan (*see* Russo-Japanese War). By the treaty of Aug. 22, 1910, the Emperor of K. made a complete and permanent cession to the Emperor of Japan of all rights and sovereignty over the country, which was renamed Cho-sen; the Japanese resident general was given the title of governor-general. Japan guaranteed to make no change in the existing tariff for ten years. *See* Mrs. Bishop, *Korea and her Neighbours*, 1898; J. S. Gale, *Korean Sketches*, [illegible]; [illegible]les, *Life in Corea*, 1888; [illegible]on, *Korea*; W. E. Griffis, [illegible]5, etc.

[illegible] Strait of, the channel be[illegible] S.E. extremity of the [illegible]ninsula and the Japanese island of Kiushiu. It is 102 m. in width. Near the centre is the island of Tshushima, off which the Russian fleet was destroyed by the Japanese, 1905.

Korets, a tn. of Russia in the gov. of Volhynia, 76 m. W.N.W. of Zhitomir. It has woollen cloth mills. Pop. 10,000.

Korigaum, a tn. of British India in the Bombay Presidency, on the Bhima, in the dist. of, and 16 m. N.E. of the tn. of, Poona. Here, on Jan. 1, 1818, a small number of British troops defeated an army of the Peshwas, estimated at 20,000 strong.

Kormend, a tn. of Hungary in the prov. of Eisenburg, 46 m. S. of Odenburg. Pop. 6300.

Kornegal, Kurnagalli, or Kurunegala, a tn. of Ceylon, 24 m. N.W. of Kandy. Once the capital of Ceylon, it is now a place of pilgrimage for Buddhists. Pop. 5000.

Korneuburg, a tn. of Lower Austria, on the l. b. of the Danube, opposite Klosterneuburg, 9 m. N.W. of Vienna. It is a steamboat station, and has a trade in salt and corn. Coarse textile goods are manufactured. Pop. 9058.

Koroit, a tn. of Victoria, Australia, in Villiers co., 43 m. N.E. of Portland. Pop. 2500.

Koroni, a fortified seaport of Greece, in the prov. of Messenia, and situated on the S.W. coast of the Messenia Gulf, 16 m. S.E. by E. of Navarino. Pop. (com.) 8500.

Körös, a riv. of Hungary, rising in Transylvania and after a western course of 340 m. it joins the Theiss at Csongrad.

Korosko, a vil. of Upper Egypt, on the r. b. of the Nile, 112 m. S.S.W. of Assuan. It is the starting-point for caravans, crossing from the Nubian Desert.

Körös-Ladany, a tn. of Hungary, in *the co. of Békés, 46 m. S.S.W. of* Debreczin. Pop. 7500.

Körösmezö, a small tn. of Hungary, in the co. of Marmaros. Pop. 9000.

Korostyshev, a tn. in the gov. of Kiev, Russia, situated S.W. by W. of the town of Kiev.

Korotcha, or **Karotcha**, a tn. of Russia in the gov. of Kursk and 68 m. S.E. of the town of Kursk. Pop. 15,000.

Korotoyak, a tn. of Prussia in the gov. of Voronezh, and situated on the R. Don. Pop. 10,000.

Korsakovsk, a tn. of Sakhalin, Japan, situated on Aniva Bay, with a good harbour.

Korsör, a seaport on the W. coast of Zealand, Denmark, situated in the prov. of Sorö, 61 m. W.S.W. of Copenhagen. The harbour is formed by a bay of the Baltic. It is the calling-place for steamers between Kiel and Norway, and the exports are fish, bacon, and cereals. Pop. 6000.

Kortrijk, *see* COURTRAI.

Korumburra, a tn. of Victoria, Australia, situated in Mornington co. and 68 m. S.E. of Melbourne. Pop. 4000.

Korvei, or **Korvey**, *see* CORVEI.

Kos, Cos, Stanchio, or *Istankeui*, an island, some 25 m. long, with an area of 110 sq. m., at the mouth of the Gulf [illegible] the Ægean Sea [illegible] Asia Minor. [illegible] itana raisins, wheat, maize, sesamum seed, and melons are the chief exports. Near Cos or Stanko, the only town, lie the ruins of Asclepius' temple, the precincts of which were marked out several centuries B.C. Pop. about 10,000.

Kosciusko, the highest mountain summit of Australia, with a height of 7328 ft. It is situated in the S.E. of New South Wales, and forms a part of the Australian Alps. In 1897 a meteorological station was established here.

Kosciuszko, Tadeusz (1746-1817), a Polish soldier and patriot, born at Siechnowice in Lithuania. A love affair drove him to the United States (1777), where he fought for the co[illegible] 17[illegible] th[illegible] the revolution of 1794 broke out, he put himself at the head of the national movement in Cracow, and was appointed dictator and commander-in-chief. At first victorious, he was hemmed in by Russians and Prussians at Warsaw, and, forced to take the field, he was defeated and taken prisoner at Maciejowice. Released two y[illegible] effort[illegible] cause[illegible] *then retired to follow agricultural* pursuits in France and Switzerland. He died in Switzerland and was buried in Cracow.

Kosel, *see* COSEL.

Kösen, a watering-place and summer resort of Prussia in Saxony, on the R. Saale, 20 m. E.N.E. of Weimar. Pop. 3006.

Kosfeld, *see* KOESFELD.

Kosher, or **Kasher**, a Hebrew word meaning 'fit,' and is therefore opposed to *pasul* (unfit). It is especially applied by Jews to meat which has been slaughtered according to Mosaic law.

Kosi, a tn. in the United Provinces, in the dist. of Muttra, India. Pop. about 11,000.

Köslin, or **Cöslin**, a tn. of Prussia in the prov. of Pomerania, 24 m. E. of Kolberg. The manufactures consist of machinery, paper, tobacco, soap, etc. There is a cadet academy and a deaf and dumb asylum. Pop. 23,247.

Koss, *see* COSS.

Kossovo, or **Kosovo**, a vilayet of European Turkey, with an area of 12,700 sq. m. It consists of the sanjak of Uskub in Macedonia, and those of Prizren and Novibazar in N. Albania. *Formerly the vilayet was* a part of Servia, and its northern districts are still known as Old Servia. The scene of many battles during the Balkan War of 1912-13. Pop. 1,100,000.

Kossuth, Lajos (1802-94), a Hungarian patriot, born of noble but poor family at Monok, in Zemplin, Hungary. He studied law at the Protestant college of Sarospatak, and practised for a time, but gave most of his life to the cause of Hungarian nationalism. After serving a sentence of four years for publishing reports of the debates of the *National Assembly*, he *edited* for three years (1841-44) the *Pesti Hirlap*, the organ of the National party, and came to be recognised as one of the leaders of the National movement. He was Minister of Finance in the Hungarian ministry of 1848, and shortly afterwards, when a dispute arose with Austria over the revolt of

the ~ ence · the His 1849, after Görgei's surrender of Villagos, he was forced to flee to Turkey, where he was made a prisoner, but afterwards released. He then visited England and the United States, living in England for several years in close connection with Mazzini. He made several further attempts against Austrian rule, but his activities in that direction ceased after the Austro-Hungarian reconciliation of 1867. He died at Turin.

Kosten, a tn. of Prussia in the prov. of Posen, 25 m. S.S.W. of the tn. of that name. Pop. 7810.

Kostendil, or **Kustendil**, a tn. of Bulgaria and cap. of the prov. of K., on a trib. of the R. Strauma, 43 m. S.W. of Sofia. It is the seat of a Greek metropolitan, and is noted for its hot mineral springs. Pop. 12,000.

Koster, Henry (*d.* 1820), an Englishman resident in Brazil, whose book, *Travels in Brazil* (2 vols., London, 1816), Southey reviewed very favourably in the *London Quarterly Review*, xvi. 344-387. K. died in Pernambuco.

Kostheim, a tn. of Germany in the grand-duchy of Hesse, on the R. Main at its junction with the Rhine. Pop. 7473.

Kostroma: 1. A gov. of Central Russia. Most of the surface of the country is covered by forests, and the amount of produce is insufficient for the needs of the inhabitants. Cotton and woollen goods, also wooden articles, are manufactured. Area 32,490 sq. m. Pop. 1,700,900. 2. The cap. of the gov. of that name, situated near the confluence of the Kostroma and Volga Rivers, 200 m. N.E. of Moscow. It contains a cathedral of the middle ages and carries on a trade in corn, linen, timber, leather, and other articles. Pop. 44,893.

Köszeg (Ger. *Güns*), a tn. in Hungary, 20 m. from Odenburg. It has important cloth factories, and a brisk trade in fruit and wine. It was the scene of the defeat of the Turkish army under Solyman in 1532. Pop. 7500.

Kotah, a walled tn. on the r. b. of the Chambal, cap. of Kotah state, in the Rajputana agency, India, 120 m. S. of Jaipur. It contains an old and new palace, many fine temples, besides schools, and the public library (the Crosthwaite Institute). It is very unhealthy. The chief manuf. is that of muslin. Pop. 34,000.

Kotaiba (*d.* 716), a Persian general, was one of the greatest of Islam's conquerors. Hadjdjadj appointed him governor of Khorassan in 704. The

ar he took possession of (modern *Bokhara*). In ited the Chinese, and he conquered Kashgar, and actually invaded China.

Kotakota, a station in British Nyasaland, on the W. shore of Lake Nyasa. It . . and is the chief Arab caravans t

Kotayam, or **Kottayam**, a tn. in Travancore, India, 32 m. S.E. of Cochin, noted as being the headquarters of the Syrian Christian Church. Pop. 18,000.

Kotelnoi, *see* NEW SIBERIA ISLANDS.

Köthen, or **Cöthen**, an industrial tn. in Anhalt, Germany, near Halle, with manufs. of sugar and chemicals. It was the cap. of the duchy of Anhalt-Köthen from 1603 to 1847. Pop. 23,411.

Kotka, a seaport in Viborg, Finland, on the Helsingfors Railway. It is a centre of the timber trade, and the chief port for the exports and imports of E. Finland. Pop. 11,000.

Kotokou (reigned 645 - 654 A.D.), Emperor of Japan, added lustre to his name by the many reforms he accomplished in the provincial administration. Moreover he appointed three ministers to advise and control a council of eight.

Kotonu, or **Kutanu**, a tn. and port of Dahomey, W. Africa, 17 m. W.S.W. of Porto Novo. It was ceded to France in 1868.

Kotri, a tn. in the Karadir dist., Sind, British India, on the r. b. of the Indus. Pop. 7500.

Kottbus, or **Cottbus**, an industrial tn. on the R. Spree in the Prussian prov. of Brandenburg. It has manufs. of cloth, linens, carpets, and machinery, and brewing and tanning are also carried on. Pop. 48,644.

Kotur, a tn. and fort of Persia in the prov. of Azerbaijan, 110 m. W.N.W. of Tabriz. Pop. 8000.

Kotzebue, August Friedrich Ferdinand von (1761-1819), a German dramatist, born at Weimar, held various public offices in the Russian service and spent a short time in banishment in Siberia (1800). He was a prolific writer of plays, satires, tales, and historical works. His best known dramas are: *Armuth und Edelsinn*; *Menschenhass und Reue* (Eng. trans., *The Stranger*, 1798); *Die Kreuzfahrer*; *Die Hussiten vor Naumburg*; *Der arme P.* . . by the skilful was a attacke bitterly In 1817 he came to Germany on behalf of the Russian government and distinguished himself by his opposi-

tion to the current liberal tendencies. In particular he ridiculed the *Burschenschaft* movement, and was on that account assassinated by a Jena student named Sand at Mannheim. His complete works appeared in 44 vols. (1827-29). See *Life* by Cramer, 1819; Döring, 1830; and Rabany's *Kotzebue, sa vie et son Temps*, 1893.

Kotzebue, Otto von (1787-1846), a German explorer, son of August Friedrich above, born at Revel. Accompanied Krusenstern round the world (1803-6). Made two prolonged voyages to the Pacific, discovering in the former (1815-17) the Suwaroff and Krusenstern islands and Kotzebue Sound, and visiting in the latter (1823-26) the islands of the Sand-

Caucasus and Poland, he was given the command of the Caucasian army. During the Crimean War (1853) he was attached to Prince Gortschakoff, and from 1874 to 1880 acted as governor-general of Poland.

Kötzschenbroda, a tn. in the kingdom of Saxony, Germany, 3 m. N.W. of Dresden. Pop. 6445.

Kouang (1018-86), a Chinese statesman and historian, chiefly celebrated for his history of China, *Tsou-tchi-Thoang-Kian*. He departed from the usual custom adopted by former Chinese historians of chronicling facts under distinct sections, political, social, etc., and made his arrangement a chronological one. His book commences with the third emperor of China, Hoang-Ti, and ends at the beginning of the 10th century.

Kouan-Han-King, a Chinese dramatist, flourished in the 13th century under the dynasty of Youen. Among his plays are: *The Anger of T'ou-Ngo; The Jade Mirror; The Dreams of Pao-Kong*; and the *Palace of Pleasure*. Notice of them will be found in Bazin's *Siècle des Youen*, 1850.

Koumiss, or Kumiss, a beverage made from mare's milk fermented, and often served up with cooked grain. It is a common refreshment of the Arabs of Africa and some of the tribes of Asia, particularly the Tartars.

Kouropatkin, *see* KUROPATKIN.

Koutouzof (or Kutusoff), Mikhail Ilarionovich (1745-1813), a Russian field-marshal, joined the army at the age of sixteen, fought against the Turks in 1770 and again in the war of 1788-92, and gained especial distinction at Shumna Otchakov, and Ismail. Tolstoi refers to him as 'the genius of Russia,' because during Napoleon's disastrous campaign of 1812 he proved so admirable a generalissimo of the native forces, offering a most stubborn resistance to the emperor at Borodino and inflicting a crushing defeat on Ney and Davoût at Smolensk.

Kovalevsky, Alexander (1840-1901), a Russian embryologist, born near Vitebsk; became a professor at Odessa and St. Petersburg. His research work includes the embryology of invertebrates; the life-history of a simple Ascidian (1866 and 1871), and the development of the Amphioxus (1867 and 1[illegible] the worm pods. He [illegible] Haeckel's Gastræa theory.

Kovalevsky, Sophia Vasilyevna, better known as Sonja Kovalevsky (1850-91), a Russian mathematician, married in 1868 and went to Germany with her husband. At the universities of Heidelberg and Berlin she studied mathematics, and in 1874 received her degree from the university of Göttingen. In 1884 she was appointed professor in Stockholm. Her greatest distinction was the winning of the Prix Bordin from the Academy of Paris (1888). Besides mathematical dissertations of the highest merit, she wrote novels, and her fellow countrywomen may well be proud of her as a brilliant pioneer in the field of intellectual attainment.

Kovel, a tn. of Russia in the Volhynia gov., on the R. Turiya, with considerable trade Pop. 18,000.

Koviaks, or Koryaks, a Mongoloid people of North-Eastern Siberia. They are divided into a settled fishing portion and a nomadic pastoral portion. Immense heads of reindeer are owned by the latter. Some of them have been Christianised, but the prevailing religion is Shamanism. They are near akin to the Chukchis (*q.v.*). They number about 5000.

Kovno: 1. A gov. of N.W. Russia, with an area of 15,692 sq. m. The surface is mostly plateau, and it is well watered by the Niemen, the Courland Aa, and the Duna, all of which are navigable. There are many lakes and marshes, and forests cover about one-fifth of the area. The climate is mild. There is a brisk transit trade, but there are few industries, agriculture being the chief occupation of the people. Wheat, rye, oats, barley, potatoes, and linseed are exported. Pop. 1,775,900. 2. The cap. of gov. Kovno, 56 m. W.N.W. of Vilna. It is an important entrepôt for trade with Prussia, and its factories produce nails and metal goods, mead, and bone-meal. It dates back to the

11th century, and was a wealthy commercial city in mediæval times, but was plundered and burnt by Tsar Alexis in 1655. Pop. 75,000.

Kovrov, a tn. in Vladimir gov., Russia, on the Nijni-Novgorod line. It has railway works and cotton mills. Pop. 15,000.

Koweit, Kuweit, or Grane, a tn. in Asiatic Turkey, at the head of the Persian Gulf. It has an excellent harbour. It is of great importance as a port of entry for guns, rice, coffee, etc., and exports horses, pearls, dates, wool, etc. The Sheikh of K. is under treaty obligations (made 1899) with the Indian government. Pop. 25,000.

Kowloon, or Kaulun, a British peninsula of [illegible] he island of to the Briti ng been acquired by the Peking Convention of 1860. The town of K. stands at the landward end of the peninsula in the province of Kwangtung. A railway runs from here to Canton, and the town contains the villa residences of the colonists, and also a sanatorium for the troops. Pop. 100,000.

Kowtow, or Kotou, a Chinese word made up of *ko*, knock, and *tou*, head. The act of K., or prostration, before the emperor consists in kneeling thrice, allowing the forehead each time to touch the ground. A Chinaman performs a K. as a mark of reverence or homage.

Kozlov, a tn. of Central Russia in the gov. of Tambov, on the R. Lyesnoi Voronezh, 45 m. W. by N. of Tambov city. Owing to its favourable position, it is an important trade centre. The exports are grain, cattle, meat, eggs, hides, tallow, etc. Pop. 45,000.

Kra, Isthmus of, situated about lat. 10° 20′ N., connects the Malay Peninsula with the rest of Indo-China. A gap occurs here between the main mountain range and the mountains of the peninsula, and it has been proposed that this shall be the site of a new ship canal; this would shorten the route from Calcutta by nearly 700 m., and that from Burma to Bangkok by over 1000 m.

Krafft, Barbara (1764-1825), an historical and portrait painter, born at Iglau, Austria, studied under her father, J. N. Steiner. She lived in Vienna, spent some years in various towns in Germany, and finally settled in Bamberg. Bishop Gotthard, Joseph II., Leopold II., and Francis II. sat to her. Her genre pieces were much admired, but she is chiefly noted for her portraits.

Kragerö, a tn. of Norway in the prov. of Bratsberg, situated on the S. coast. Its harbour is deep and capacious, and the exports are ice, timber, wood pulp, etc. Pop. 5600.

Kragujevac, a garrison tn. of Central Servia, situated on the Lepenica, 60 m. S.S.E. of Belgrade. There is an arsenal, cathedral, and college.

Kraiova, *see* CRAIOVA.

Krakatoa, or Krakatao, a small volcanic island in Sunda Strait, between Java and Sumatra, in the Malay Archipelago. There was a phenomenal eruption here in August 1883. The sound waves generated by the explosions travelled 3000 m. Stupendous waves, towering 50 ft. high, overwhelmed shores and settlements, caused over 35,000 deaths, and actually reached Cape Horn (7818 m. away). On the island itself the highlands, which had risen over 1000 ft. above sea-level, were replaced by an abysm diving down as many feet below.

Krakau, or Krakow, Austria, *see* CRACOW.

Kraken, a fabulous sea-monster, measuring 1½ m. round, which, according to native legend, lurks round the shores of Norway.

Krameria, *see* RHATANY.

Kranach, Lucas, *see* CRANACH, LUCAS.

Kranidion, or Kranidhi, a tn. of Greece, situated in the provinces of Argolis and Corinthia, about 24 m. S.E. by E. of Nauplia. Pop. 7000.

Krapf, Johann Ludwig (1810-81), an African missionary and traveller, born near Tübingen in Würtemberg, became a member of the Church Missionary Society, and proceeded to Africa, where he resided at Shoa, Mombasa, and Wanika (1839-46). He visited Usambara and Ukambani, discovered Mt. Kenia, and made two journeys to Abyssinia. His works include: *Reise in Ostafrika in den Jahren* 1837-55, 1858 (Eng. trans. 1860); *Vocabulary of Six East African Languages*, 1850; and *A Dictionary of the Si* [illegible] See Church [illegible] *Missionary Car*

Krasicki, Ignacy (1735-1801), a Polish divine and poet, born in Dubiecko, Gallicia, who studied under the Jesuits and in Rome. He became bishop of Ermeland or Warmia (1767), and archbishop of Gnezne (1795). When Poland was divided between Russia and Germany (1772) K. went to Berlin, and through his witty disposition attracted the attention of Frederic II. In 1780 he consecrated the first Roman Catholic Church in Berlin, which had been erected through his influence. His writings in prose and verse are on various subjects and re-

semble those of Alexander Pope in style and spirit; he is called the Polish Voltaire. His works include: *Myszeis, or Mousiad*, a mock-heroic poem, in which mice take the chief parts; *Satires*, supposed to be unequalled in the Polish language, 1778; *Monomachy, or Battle of Monks*, 1778; *Fables*, 1780. Most of his works are translated into French and German; a collected edition was published in Warsaw in 1803.

Krasinski, Valerian, Count (c. 1780-1855), a descendant of an ancient and distinguished literary and ecclesiastical family of Poland. In 1830 he introduced Lord Stanhope's printing-press, and began stereotyping an edition of the Bible into Polish. He was minister of a department of public instruction in Poland; when the revolution of 1830 broke out he joined the patriotic party and was later sent by Prince Adam Czartoryski on a diplomatic mission to England. When the Russians conquered Poland in 1831, K. found himself an exile in England. Here he lived by his pen, writing on Poland (see [illegible] 1856, vol. i., is the *His-* [illegible] *formation in* [illegible] [illegible] irite summer resort on the Duderhof Hills, 15½ m. S.W. of St. Petersburg by rail in the governn [illegible] ssia. Has an [illegible] less than 5500.

Krasnovodsk, a fortress and seaport on the Transcaspian Railway to Bokhara in Russian Transcaspia, opposite Baku in Balkhan Bay, on the S. shores of the Caspian. Pop. less than 7000.

Krasnoyarsk, cap. of the gov. of Yeniseisk, Eastern Siberia, situated on the l. b. of the Yenisei R. The commerce of the city is connected chiefly with gold washings. Pop. about 33,500.

Kraszewski, Jozef Ignacy (1812-87), a Polish author, born at Warsaw, educated at Wilna. A voluminous and versatile writer and author of numerous novels, principal among which are: *The Magic Lantern; Under Italian Skies; The Poet and the World*, 1839; *Ulana*, 1843; *Morituri*, 1875. His poems are also very popular, and include: *Anafielas*, a story of the traditions of Lithuania, and *Satan and Woman*. Among his works on travel and history are: *Recollections of Odessa* and *History of Wilna*. He was editor of the *Athenæum* at Wilna (1841-52), and in 1863 migrated to Dresden. Suffered imprisonment from 1884-86 for high treason. *See* Bohdanowicz, *J. I. von Kraszewski*, 1879.

Kremenskaya, a tn. in the prov. of Don Cossacks, Russia.

Kreutzer, Conradin (1782-1849), a German composer, pianist, and clarinet-player, pupil of Albrechtsberger; he was connected with musical circles in Vienna, Stuttgart, and Cologne principally, and his numerous operas, chamber-music, and vocal works earned for him a very considerable reputation. His best works are: *Das Nachtlager von Granada*, 1834; *Der Verschwender*, 1833, both of which are still occasionally performed; *Cordelia*, 1819; and *Libussa*, 1822. He also wrote an autobiography of some interest, 1847.

Kreuzer, a small copper coin (100 kr. = 1 gulden) formerly in use in Austria, so called from the cross (Kreuz) stamped upon it. It was first coined in the 13th century, when it was of silver. Ks. were also used in S. Germany before the founding of the empire (60 kr. = 1 gulden), having the value of ¼*d*.

Kreuz Zeitung, or Neue Preussische Zeitung, a Prussian newspaper, published morning and evening, the organ of the Junker party and extremely Conservative in its politics. Founded in 1848.

Kriegspiel (the War Game) is a scientific game of German origin, as its name denotes, in which the movements, etc., of war are imitated on a small scale. Marshall Keith in the 18th century invented a game which he called Kriegs-schachespiel (war chess), but the game in its modern form was invented in 1824 by the Prussian officer Von Reisswitz. It was quickly adopted as a method of instruction in the Prussian army, and thence spread to the armies of all countries. The materials for the game are: Blocks cut and moulded to scale to represent different units of an army, and coloured in two different colours, some pairs of dividers, and measures of the same scale, and maps. If a small number of troops is engaged large scale maps are essential, more so than if large bodies are employed. Printed regulations are not of much service in K., and the decision of a competent umpire is more valuable. Three maps should be used, one for each of the contending armies, and one for the umpire. The umpire's map shows the position of both the opposing forces, but each of the other maps reveals only the troops of one side, and as many of the enemy as the umpire decides would be visible in actual warfare. A general idea of the military situation is first given to each commander; this is followed by a 'special idea,' which gives details as to the disposition of troops, the character of the country, etc. Each

player then frames his orders, to which he is held. The time for a move is two minutes, and the troops can only be moved for such a distance as would have been traversed in actual fact in such a time. Smaller units yield to larger ones when attacked by them, and when artillery is firing on infantry, the loss of the latter is determined by a table of odds in conjunction with a throw of the dice. Repulsed troops cannot come into action for five moves (ten minutes), and defeated troops for ten moves, whilst totally defeated troops are removed from the map. When an orderly is supposed to be taking orders across country, a throw of the dice must decide whether he clears each fence in his way or not. The information which a player obtains at K. is more accurate than would be the case in real warfare, but allowing for unavoidable unreality, military training and education may undoubtedly be furthered by a judicious use of the game. See *The Tactical War Game* (1884), trans. by MacDonnell.

Kriemhild, heroine of the *Nibelungen Lied*, sister of Gunther, king of the Burgundians, is wooed by Siegfried, conqueror of Brunhild and possessor of the Nibelungen hoard. Brunhild's jealousy leads Hagen, Gunther's vassal, to murder Siegfried while hunting, and K. then changes from a gentle wife into a woman thirsting for vengeance. She marries Etzel, or Attila, the Hun, invites the Burgundian chiefs to visit her, and procures their destruction.

Kriens, a com. and vil. of Switzerland, in the canton of Lucerne, 2 m. S.W. of that place. There are large iron works. Pop. 7140.

Kriloff, Krilof, or Krilov, Joan Andreevitch (1768-1844), a Russian writer, born in Moscow. He began writing dramas at the age of twenty, but his fame rests upon his *Fables*, the first collection of which appeared in 1809; the second in 1811. They have been translated into English by Ralston, 1868, and Harrison, 1883. K. held an appointment in the Imperial Public Library from 1812 to 1841.

Krimmitschau, or Crimmitschau, a tn. in the kingdom of Saxony, Germany, 8 m. from Zwickau. It manufs. vicuña wool, woollen yarn and cloth, buckskin, iron ware, and machinery. Pop. 28,804.

Krishna, a river, S. India, *see* KISTNA.

Krishna, a Hindu deity, the eighth incarnation of Vishnu. His worship has been much in vogue in modern times. He was the son of Vasudeva and Devaki, and his birthplace is given as Mathura, between Delhi and Agra. He is represented as being brave and fearless, but crafty, while in the popular legends concerning him and in his worship as Vallabhacharya, one sees the most depraved side of modern Hinduism. He figures in the *Harivansa-pairan* and the *Bhagava*
of the great
bharata.
mingled with myths of lightning and fire, heaven and the sun.

Krishnagar, a tn. in Nadia dist., Bengal, British India, on the R. Jalangi. Coloured clay figures are manufactured. Pop. 26,050.

Kristiania, cap. of Norway, *see* CHRISTIANIA.

Kristiansand, Norway, *see* CHRISTIANSAND.

Kristianstad, Sweden, *see* CHRISTIANSTAD.

Kristiansund, or Christiansund, a seaport tn. of Norway, 85 m. W.S.W. of Trondhjem, on three islands in the Atlantic which enclose its harbour. It was founded in 1734 by Christian VI. of Denmark. It exports large quantities of dried cod and salt fish. Pop. 13,012.

Krivoy-Rog, a tn. of Russia in the gov. of Kherson, and 100 m. thereof, on the R. Ingulets. Iron ore is extensively mined. Pop. 10,000.

Krolevets, a tn. of S.W. Russia, situated in the gov. of Chernigov, and 87 m. E. of that place. It has a noted cattle fair. Pop. 12,000.

Kronenberg, a com. and manufacturing tn. of Prussia in the Rhineland prov., 3½ m. from Elberfeld. Pop. 12,942.

Kronos, *see* CRONUS.

Kronprinz Wilhelm, a mail steamer belonging to the Norddeutscher Lloyd at Bremen. It was built in 1901, and has a speed of 23 knots, with dimensions 637 by 66 by 39 and a gross tonnage of 14,908.

Kronstadt, or Cronstadt: 1. A tn. and naval fortress of Russia, situated in the gov. of St. Petersburg, on the island of Kotlin, near the head of the Gulf of Finland, and 18 m. W. of St. Petersburg. Sir
was constructed
St. Petersburg,
can be reached
public buildings
dral, a marine hospital, schools, etc., in addition to the naval works, arsenals, cannon foundries, etc., which carry on the chief industry of the place. Founded by Peter I. in 1710, K. has always been the chief Russian naval arsenal in the Baltic. The harbour is ice-bound during the winter. Pop. 66,624. 2. (Hungarian *Brassó*) A tn. of Hungary, situated at the foot of the Transylvanian Alps, 260 m. S.E. of Pesth by rail. Situated

at a height of 1850 ft., it is an important commercial centre, having a trade with Roumania and the Balkan States. There is a Gothic cathedral dating from 1385. The manufactures include cloth, leather, cement, and candles, and there are also distilleries and petroleum refineries. Pop. 60,000.

Kronstadt, Father John of (1829-1908), a Russian priest whose real name was John Kitch Sergniev. He became priest of the English cathedral church of Kronstadt, after having studied at the theological academy of St. Petersburg, where he took his divinity degree in 1855. He soon obtained an extraordinary influence over people, and the enthusiasm aroused by his sermons led to miracles of healing being attributed to him. People of every class flocked to him with their bodily and spiritual troubles, and with the money thus acquired he founded numerous charitable institutions. He was violently opposed to the teaching of Tolstoi. His publications include: *Ma Vie dans le Christ; Sermons sur le Dieu Créatur; Sermons et Instructions; Quelques mots de Reponse aux fausses Doctrines du Comte Tolstoi*, etc.

Kroonstadt, or **Kroonstad**, a dist. and tn. of Orange Free State, S. Africa, 110 m. S.S.W. of Johannesburg. The dist. is separated from the Transvaal by the Vaal R. Coal is mined. Pop. of tn. 8000.

Kropotkin, Prince Peter Alexsivitch (*b.* 1842), a Russian geographer, nihilist, and author, born at Moscow of a noble family. In 1857 he entered the Corps of Pages at St. Petersburg. In 1862 he went with a Siberian Cossack regiment to Siberia, and carried out two geographical surveys whilst there. He returned to St. Petersburg in 1867, and studied at the university for four years whilst secretary to the Geographical Society. In 1871 he explored the glacial system of Finland and Sweden, and in 1873, by a map and paper which he published, proved that the main structural line of Asia ran from S.W. to N.E., and not N. to S., as had been supposed. In 1872 he joined the International Working Men's Association at Geneva, and definitely adopted anarchism a little later. He was arrested in 1874 for spreading nihilistic doctrines on his return to Rome, but escaped in 1876 and came to England. Later he went to Switzerland, but was expelled therefrom in 1881, and came to England for a year. In 1883 he was arrested at Lyons by the French government, and sentenced to five years' imprisonment, but as a result of repeated agitation in the French Chamber, he was released in 1886, when he returned to England and settled down. Among his numerous works may be mentioned: *Paroles d'un Révolté*, 1884; *L'Anarchie, sa Philosophie, son Idéal*, 1896; *Memoirs of a Revolutionist*, 1900; *Modern Science and Anarchism*, 1903; *Biography of Asia*, 1904; *Russian Literature*, 1905, etc., etc.

Krossen, or **Crossen**, a tn. of Brandenburg prov., Prussia, at the confluence of the Oder and Bober, 32 m. S.E. of Frankfort-on-Oder. There is an old castle, and manufs. of hosiery and woollen cloth. Pop. 7588.

Kroton, Italy, *see* COTRONE.

Krotoschin, or **Krotoszyn**, a tn. o Posen prov., Prussia, 60 m. N.N.E. of Breslau. It has brickworks and breweries, and a seat of the Prince of Thurn and Taxis. Pop. 13,061.

Krüdener, Barbara Juliana von (1766-1824), a Russian mystic, was an aristocrat by birth and made an unhappy marriage with Baron von Krüdener. She is thought to have woven details of her own life into her romance, *Valerie* (1803). In later life, having come under the influence of Jung Stilling, she travelled through Baden and Switzerland, preaching the vanities of worldly living. Her somewhat crude mysticism impressed the Emperor Alexander, but was so distasteful to the ecclesiastical authorities that in 1818 she was obliged to renounce her public ministry.

Krug, Wilhelm Traugott (1770-1842), *a philosopher and writer, the* originator of the system called 'transcendental synthesism,' which endeavours to combine Idealism and Realism. He studied at Wittenberg, and was later appointed assistant professor of philosophy in consequence of his *Letters on the Perfectibility of Revealed Religion*. In 1801 he was extraordinary professor of philosophy at Frankfort-on-the-Oder; ordinary professor of logic and metaphysics at Konigsberg (1804); ordinary professor of philosophy at Leipzig (1809). His principal writings are: *A System of Theoretical Philosophy; History of the Philosophy of Ancient Times*, especially among the Greeks and Romans; *System of Practical Philosophy; Handbook of Philosophy and Philosophical Literature; Universal Manual of the Philosophical Sciences; Canon Law presented according to the Principles of Reason and in the Light of Christianity; Lectures on Universal Philosophy for the Education of both Sexes*, and his autobiography, 1826 and 1831.

Kruger, Stephanus Johannes Paulus (1825-1904), four times president of the Transvaal republic, was born at Colesburg in Cape of Good Hope. The founder of the family was Jacob K., who in 1713 was sent to Cape

Colony by the Dutch East India Company; in the family on both sides Huguenot names are found. K. accompanied his parents in the great trek from Cape Colony to the country N. of the Orange River between 1835 and 1840. His education was primitive, and almost his only book was the Bible. The Dutch Reformed Church of the Transvaal was divided into three sects, and to the narrowest and most bigoted of these, the Dopper sect, the Kruger family belonged. All through his life he considered himself to be under special Divine guidance and protection, and to this he owed much of his influence over his followers. At the age of seventeen he was an assistant field cornet, at twenty a field cornet, and at twenty-seven took command against Sechele, the In 1852 the Transva independent by the Sand River Convention, and from that time was in a very unsettled condition; K. entered freely into all the disputes of the factions. In 1856-57 he joined Pretorius in an abortive attempt to compel a federation between the Transvaal and the Orange Free State. In 1864 Pretorius was made president of the Transvaal, and K. commander-general of the forces. In 1870 the public dissatisfaction over the Keate award in a boundary dispute, caused the downfall of Pretorius's government. K. acted with such bitterness and hostility to the new administration, under T. F. Burgers, that in 1877 the Transvaal was annexed by Great Britain. K. accepted office under the British government, but was dismissed in 1878. In 1880 the Boer rebellion occurred, and K., with General Joubert and Pretorius, negotiated the terms of peace. In 1883 he was elected president, and in the following year obtained the London Convention. In 1886 he secured re-election as president. During all his terms of power he was bitterly hostile to Uitlanders, and by his short-sighted policy undoubtedly brought about the Boer War. In 1893 he was very unpopular, and there is no reasonable doubt that he falsified the election figures which caused him to be re-elected by a majority of 700 over General Joubert. In 1899, after a fruitless convention with Sir A. Milner, war was declared. K., after attempting in vain to influence the European powers on his behalf, fled to Europe and resided at Utrecht. He died at Clarens, on the shore of Lake Geneva, whither he had gone for his health, and was buried at Pretoria. *See* J. J. van Oordt's *P. Kruger ende opkomst a Quia Afrikaansche Republiek*, 1898; F. R. Stathan's *Paul Kruger and his Times*, 1898; *The Memoirs of Paul Kruger*, by himself, 1902, etc.

Krügersdorp, or **Krugersdorp**, a tn. of the Transvaal prov., S. Africa, 22 m. W.N.W. of Johannesburg, between Johannesburg and the Blaauwbank goldfields. It was founded on the Witwatersrand (1887), and named after President Kruger. The Dutch used yearly to celebrate here their victory over the Zulu Dingaan (1838-40), and later their defeat of the British at Majuba Hill (1881). At Doornkop, near by, Dr. Jameson surrendered to the Boers under Cronje (1896). There are limestone caves at Sterkfontein, 8 m. away. K. is a mining-centre. Pop. about 20,000.

Krumau, or **Krummau**, a tn. of Bohemia, Austria, on an island in the 14 m. S.S.W. of Budweis. include linen, cloth, paper, , hemp. There is graphite mining also. It has a fine old castle. Pop. 8716.

Krummacher, Friedrich Wilhelm (1796-1868), a German preacher and writer on religious subjects, born at Mörs on the Rhine, was the son of Frederick Adolf K., the author of *Die Parabeln*, was preacher in the Reformed Church at Frankfurt, Ruhrort, Barmen, Elberfeld and Berlin, and in 1853 was made court chaplain at Potsdam. Among his works are: *Salomo und Sulamith*, trans. 1838; *Elias der Tishbiter*, trans. 1838; *Elisha*, 1835; *Das Passionsbuch*, 1870; *David*, 1867. He also wrote an autobiography, 1869 (trans. 1871).

Krupp, Alfred, founder of the celebrated iron and steel works at Essen in Prussia, born at that town, and succeeded his father in possession of a small iron forge in 1848. His first efforts were in the direction of producing axles and tyres for railways. K. adopted the steam-hammer and the Bessemer process of manufacturing steel immediately they were introduced (1857), and turned his attention to the production of larger armaments. He had already in 1847 produced his first cannon, a 3-pounder, cast-steel muzzle loader. Paying attention to the production of cast-steel blocks of great weight he at length (1880) succeeded in forging a breech-loading gun of 100 tons, the largest of its kind at that date. He was also a pioneer in producing specially hardened armour for warships. Though at first ignored by the German government he at last received due appreciation, and was frequently visited by the late Emperor William. With the growth of his business he was able to acquire large mines and collieries, and the K. works at Essen, Kiel Annen, and

Gruson now employ some 70,000 persons. He was succeeded by his only son, *Friedrich Alfred K.* (1854-1902), by whom was constructed the immense 135-ton gun for the defence of Kronstadt, and who was in turn succeeded by his daughter, *Frau Bertha*, married to Baron Krupp von Bohlen und Halbach.

Krusevac, or Krushevatz, a prov. and tn. of Servia, 37 m. from Kragujevac. The cap. of the Servian csars till 1389, it was held by the Turks from 1428-1833. Pop. about 8000.

Krushevo, a tn. of European Turkey, in the vilayet of Monastir, 23 m. N.W. from the tn. of Monastir. Pop. 10,000.

Krypton, a gaseous chemical element found in the atmosphere. It forms one of the group known as 'companions of argon,' the other members being helium, reon, and xeon. It is estimated that the quantity of all the companions of argon existent in the atmosphere does not exceed $\frac{1}{250}$ of the volume of argon. K. has a density of 40·88 and a boiling point of 121·33° absolute temperature.

Kshatriyas, *see* CASTE.

Kuala Lumpur, the cap. of the British protectorate of Selangor, W. Malay Peninsula. Rubber is produced and tin is mined. Pop. 80,000.

Kuala Selangor, a seaport tn. at the mouth of the Selangor (Straits of Malacca), on W. coast of S. protectorate, Malay Peninsula. It was once an important Dutch stronghold. Exports include timber, rubber, ivory, tin, rattans, and hides. Pop 35,000.

Kuango, *see* CONGO.

Kuanza, *see* COANZA.

Kuba, a tn. of Russian Transcaucasia, in the gov. of Baku. It is noted for the culture of silkworms, and the manuf. of silk goods and carpets. Pop. 16,000.

Kuban, the name of both a prov. and a river of Russia. The prov. includes the river basin, the northern slope of the Caucasus range as far to the E. as Elbruz, and the coast of the sea of Azov. The crops grown include wheat, tobacco, apples, pears, and vines. Horses are reared by the nomadic inhabitants of the plains. The minerals include coal, iron ore, salt, soda, and petroleum. Area 36,645 sq. m. Pop. 2,625,800. The R. Kuban, the ancient Hypanis, or Vardan, rises at a height of 14,000 ft. in M[illegible]. Its mai[illegible] in Kuban Bay after a course of almost 500 m., whilst an arm enters the Sea of Azov. Sandbanks encumber navigation, which is carried on in flat-bottomed boats.

Kubango, or Okavango, *see* CUBANGO.

Kubelik, Jan (*b.* 1880), a Bohemian violinist, made his début at the age of eight in Prague. Later he studied under Sevcik, and for the past fifteen years has played all over the world, meeting everywhere with phenomenal success. Technically perfect, his playing, however, is not always above criticism as regards interpretation; he is particularly renowned for his performance of Bach's *Chaconne*, and of Paganini.

Kublai Khan (1216-94), grandson of Jenghis Khan, was the founder of the Mongol dynasty of China. Whilst his brother Mangu was on the throne, Kublai Khan began the conquest of Northern China. On the death of Mangu in 1259 he became the 'Great Khan,' and in the course of time added Southern China to his empire, also Tartary, Tibet, Burma, and other countries. His empire was thus of great extent, but many of his foreign expeditions, particularly those against Japan, ended in failure. Kublai Khan was a wise and just ruler; he encouraged trade and agriculture, and established Buddhism as the state religion. He delighted in pomp and display, as we see in Marco Polo's *Travels*. The son whom he had chosen to succeed him predeceased him, dying in 1284, and his son Teimur was his successor.

Kuch (Cooch) Behar, a feudatory state of N.E. Bengal, India, near Darjiling. Area 1307 sq. m. Pop. 570,000. The cap., Kuch Behar, is on the Tursa, and has about 12,000 inhabitants. The natives are called Koch or Rajbansi. Rice, tobacco, silk, and jute are produced.

Kuchaman, a tn. of Rajputana, India, 65 m W.N.W. of Jaipur. Pop. 13,000.

Kuchan, or Kabushan, a tn. of Khorassan, Persia, connected by road with Meshed. It was destroyed by earthquakes in 1893 and 1895. Pop. 12,000.

Kuching, *see* SARAWAK.

Kücken, Friedrich Wilhelm (1810-82), a German musician, connected with the Stuttgart circles from 1851-61, and later with Schwerin; he is known chiefly as a writer of songs of light character, half art-song, half drawing-room ballad.

Kuczurmare, a com. of Austria in the prov. of Bukowina, on a trib. of the R. Pruth. Pop. 9716.

Kuei-hua-chêng, or Kukukhoto, a tn. of China in the prov. of Shansi, 250 m. N.E. of Peking. It consists of two parts, an important trading and commercial centre, and the military portion. There are Protestant and Catholic missions, and it was here that Lieutenant Watts-Jones was murdered in 1900. Pop. 200,000.

Kuenen, Abraham (1828-91), an eminent Dutch biblical scholar, born at Haarlem in Holland. He was educated at Leyden University, where, in 1853, he became professor of O.T. theology. He married the daughter of Muurling, one of the founders of Groningen school; he was rector of the university from 1861-62. K. was undoubtedly one of the greatest of O.T. critics, and it was owing in a large degree to his labours that the theory of the Pentateuch and the history of Israel was placed on a scientific footing. His work entitled *Godsdienst van Israël* (1869-70), translated into English in 1874 as *The* ... showed the fallacy ... distinctions ... d legal por- ... and Pentateuch, as H. Graf had done in his *Geschichtliche Bücher des A.* ... K. visited England several ... 1882 he delivered a course o' ... on natural and universal ... and he also came to visit Colenso, who ... works, and as a ... and Foreign ... In 1883 K. ... over the congress of Orien- ... Amongst his ... : *Historisch-* ... *het Ontstaan* ... *e Boei* ... 1861- ... Cole ... and ... *Critically Examined*, 1865 ... *feten en de Profetie onder Is* ... *Natural Religions and Un* ... *ligions* (Hibbert lecture), ...

Kuen-lun or Kwen-lun ... a term used to designate ... the mountain ranges which ... the northern edge of th... plateau. In its widest sense the Kuen-lun Mts. stretch in a waving line for nearly 2500 m. from E. to W. In the western portion the ranges are 'squeezed' together more closely, having a breadth of 150 to 200 m. only, and the summits are correspondingly loftier. In the eastern portion the breadth increases to 600 m. and the ranges are consequently less folded and flatter. The Kuen-lun are the backbone of the tectonic structure of Asia. A peculiar feature of the Tibetan plateau is that the outermost border range is throughout double, as are the lake basins be- ... The Kuen-lun ... either the ... the highest ... 22,000 ft., but there are ... outstanding peaks, as the general level is so high. The importance of the Kuen-lun system was recognised from very early times, but K. Ritter was the first to recogn... Baron von R... defined them ... as a complex ... parallel ranges running in a wavy line from 76° to 118° E. His classification was sound in its general outline, but the details have been very considerably revised by the labours of Russian, English, French, and Hungarian explorers, amongst whom Sven Hedin, a Swede, stands out pre-eminently. The Kuen-lun is now generally divided into three main parts, the Western, extending from 76° to 89° E., the Middle to 104° E., and the Eastern Kuen-lun to about 112° E.

Kuhn, Franz Felix Adalbert (1812-81), a German mythologist, born at Königsberg, Brandenburg; from 1841 teacher and from 1870 principal of ... of Cologne. Pub- ... oks on comparative ... ranks as one of the ... branch of knowledge. His ... works are: *Märkische Sage* ... *Gebr* ... *falen* ... *indo-germanischen Völker* ... 1850; *Die Herabkunft des Feuers und des Göttertranks* (2nd ed.), 1886; *Ueber Entwickelungstufen der Mythen-* ... 1874.

... NBURG.

... of Bornu, in- ... sh protector- ... so called ... or *kuka*, ... dity. It is ... e British ... but was ... e native ... holds his ... 908). The modern town was ... d about 1805 and rebuilt in 1903. Pop. (estimated) 60,000.

Ku-klux-klan, the name of an ... stated ... newly emancipated slaves. ... governments were unable to suppress the movement, but its lawless acts, culminating in the outrages of 1868-69, led to action by the U.S. ... influence ... some years later.

Kukukhoto, *see* KUEI-HUA-CHÊNG.

Kula, a com. of Hungary, co. Bacs-Bodrog, 34 m. from Maria Theresiopel. Pop. 9000.

Kulasekarapatnam, a tn. of Madras, India, in the dist. of Tinnevelli. Of the population (20,000) about one half are Hindus, one quarter Christians, and the rest Mohammedans.

Kulbarga, or Gulbarga, a tn. in India, Haidarabad, cap. of the dist. [illegible] It was [illegible] was the [illegible]s (1347- [illegible] ruins of [illegible]se kings. There is a great mosque modelled after that of Cordoba in Spain. Pop. 30,000.

Kulja, or Ili, a walled tn. of Central Asia, in Chinese Zungaria, on the R. Ili. It is one of the chief cities of the region, and is the seat of the Russian consul. The two chief buildings are the Taranchi and Dungan mosques. Paper and vermicelli are manufactured, and wheat, barley, poppies, and lucerne cultivated. Pop. 10,000.

Kulm, a tn. on the R. Vistula, W. Prussia. It has ancient walls and large oil mills, saw mills, and machinery works. Its trade is important. Pop. 11,720. *See* KULMSEE.

Kulmbach, a walled tn. of Germany in the kingdom of Bavaria and gov. of Upper Franconia, 11 m. from Beyreuth. It is famous for its breweries, malting, and bottling works, especially for its black beer, which is largely exported. Pop. 10,731.

Kulmsee, a tn. in the prov. of W. Prussia, Prussia, 14 m. N. of Thorn. It was the see of the bishops of Kulm from 1243 to 1824. Pop. 10,6[illegible]

Kulp, a tn. in the gov. of [illegible] Transcaucasia, Russia, and [illegible] to the S.W. of the town of [illegible]. Enormous quantities of rock salt are found here. Pop. about 3000.

Kulu, a valley of British India, Punjab, Kangra dist., with rich, undeveloped deposits of silver, copper, and lead. It also produces very fine fruits and vegetables.

Kum, a tn. of Persia, on the Anarbar R., cap. of the prov. of the same name. It is connected by road with Teheran, and is also noted as a place of pilgrimage, containing as it does the shrine of Fatima (*d.* 816), the sister of Riza, the eighth Imam. There is a manufacture of porous vases. Pop. 28,000.

Kuma, a riv. of N. Caucasia, Russia, which rises in the main Caucasus ridge in the S.W. of Pyatigarsk. It has a length of about 350 m., and flows towards the Caspian, but it is often lost in the sands of the steppes.

Kumamoto, a garrison city of Japan, Kiushiu, about 50 m. E. of Nagasaki. It is the centre of the Higo rice trade. Pop. 70,000.

Kumania, or Cumania: 1. A dist. of Europe at the time of the Crusades, extending N. of the Danube and N.W. of the Black Sea, comprising the present Moldavia, Wallachia, and part of S. Russia, W. of the Dnieper R. 2. Great Kumania, a dist. in Hungary, E. of the Theiss. Area 424 sq. m. Pop. 55,000. 3. Little Kumania, a dist. of Hungary, between the Theiss and the Danube. Area 1000 sq. m. Pop. 64,000.

Kumarila Bhatta, known also as Bhattacharya, a celebrated Brahmin teacher who lived about 600 A.D. He was an exponent of the Mimansa system of Hindu philosophy, and strenuously opposed the Buddhists, whom he is said to have extirpated. He annotated the *Sutras*, and was noted for his interpretation of the Vedic texts. He sacrificed himself voluntarily.

Kumassi, or Coomassie, the cap. of Ashanti, British W. Africa, a native city of some antiquity. It was destroyed by the British in 1874, and again captured by them in 1895-96. A railway from the coast was opened in 1903, after which its prosperity revived, and it is now the seat of the British resident. It is situated in a clearing of the dense Ashanti forest. Pop. 8853.

Kumaun, or Kumaon, a div. of the United Provinces, India, with headquarters at Naini Tal, and consisting of the three districts of Naini Tal, Almora, and Garhwal. It lies mainly on the southern slopes of the Himalayas, including many of the princi[illegible] [illegible] the foot of the [illegible] extensive forest, [illegible] the dwellings of [illegible]r tea plantations. There are mines of iron, lead, and copper, but they are little worked. The country was seized by the Ghurkas at the end of the 18th century, but was annexed to British India after the Ghurka War of 1815. Area 13,730 sq. m. Pop. 1,250,000.

Kumbum, or Gumbum, an important lamasery in the prov. of Kansu, China, 130 m. W.N.W. of Lan-chou. It is a Buddhist pilgrim resort.

Kumis, *see* KOUMISS.

Kümmel, a liquer containing 33 per cent. of alcohol, which is exported chiefly from Riga. It consists of grain, alcohol, cumin, and bruised caraway seeds.

Kumta, a tn. in S. Kanara dist., Bombay, India, on the W. coast. It has a good trade, and is famous for its sandalwood carving. Pop. 11,102.

Kunar, a riv. of Afghanistan which gives its name to a very beautiful valley. It rises in the Hindu-Kush Mts., and is known by the various titles of Yarkhun, Chitral, Kashnar, and Kunar, joins the Kabul a little below Jalalabad. The ancient towns

of Kunar and Pashat lie upon its banks.

Kunch, a tn. of British India in the Jalaun dist., 80 m. S.W. of Cawnpur. Pop. 13,000, of which about 10,000 are Hindus.

Kundt, August (1839-94), a German physicist, born at Schwerin, Mecklenburg; became privat docent at Berlin University (1866), professor of physics at the Zürich Polytechnicum (1868), professor [illegible] and Strassburg of physics in the stitute (1888). He is best known by his researches in sound, and has given his name to the method of determining the velocity of sound vibrations by dust figures. He also determined the ratio of the two specific heats of a gas, and did some valuable work in optics, dealing with the anomalous dispersion of light and the optical characteristics of metals.

Kunduz, a khanate and tn. of Afghan Turkestan, the former of which is bounded on the N. by the Oxus and on the S. by the Hindu-Kush. The town is the trade centre of a large district, but is very dirty and unhealthy.

Kunene, *see* CUNENE.

Kunersdorf, a vil. of Prussia in the prov. of Brandenburg, 6 m. from Frankfort-on-the-Oder. Here Frederick the Great, at the head of the Prussian army, was defeated by the combined armies of the Russians under Soltykov and the Austrians under Laudon in 1759. Pop. 5000.

Kungur, a tn. on Sylva R. in the gov. of Perm, Russia, on the Siberian highway. It has tanneries, leather factories, and iron foundries, and manufactures soap, shoes, and overcoats. Alabaster is quarried, and there are copper and iron mines. It has an important fair, and is famous for its alabaster caverns. Pop. 15,000.

Kun Long, a dist. in the Shan states, Burma, and also a ferry on the Salween. The Burmese formerly had a customs station here, until the depredations of the Wa, or hill-men, made the place dangerous for traders.

Kunsan, a tn. on the W. coast of Korea, on the Yellow Sea. It is one of the Treaty Ports, and its opening dates from 1899. Pop. 12,000.

Kun Szent Marton, a tn. with a magistracy in the prov. of Szolnok, Hungary, 29 m. from Kecskemet. Pop. 11,000.

Kunti, in Hindu mythology a heroine of the *Mahabharata*, daughter of the Yadava prince Shura. She was the mother of Karna by the sun, and afterwards became the chief wife of Pandu, and bore three sons.

Kuopio: 1. A prov. in the middle of Finland, including N. Karelia. The surface is hilly, and large lakes cover about 17 per cent. of it. The soil is of moderate fertility, but very little of it is cultivated. There are engineering and chemical works, tanneries, and saw mills; carts and sledges are also made, and timber, iron, butter, furs, and game exported. Dairy farming and cattle breeding are extensively carried on, and a large quantity of iron is mined. Area 16,500 sq. m. Pop. 314,000. 2. A tn., and cap. of the above, on Lake Kalla-vesi, is a trading centre of considerable importance and has communication with Middle Finland and the sea (*vid* Saima Canal). Pop. 15,500.

Kupferdreh, a com. of Rhenish Prussia on the Ruhr, 11 m. S.E. of Essen. Pop. 9553.

Kura, or **Kur**, a riv. of Trans-Caucasia, Russia, rises in Kysyrdagh ridge and flows to the Caspian. It is 825 m. in length, has a basin of 60,000 sq. m., and is navigable for 450 m. from its mouth. The chief tributary is the Araz. There is considerable fishing in its lower course.

Kuram, a riv. of Afghanistan and British India, which rises in Afghanistan, flows E., collecting its headwaters from the Safid Koh, and traverses the Sulaiman Mts., from which it emerges by the Kuram Pass. After this it flows through the Bannu district and finally enters the Indus.

Kurdistan, a mountainous region of W. Asia, S. of Armenia, once part of ancient Assyria. It is mostly in Asiatic Turkey, partly in Persia. K. stretches S. from the R. Araxes to the plains of Mesopotamia and mountains of Luristan, and E. from the Upper Euphrates to the upper course of the Tigris and Urmiah in Persia. The chief vilayets are Diarbekr, Bitlis, Mamuret-ül-Aziz, Van, while Ardelan and Azerbaijan provinces are in Persia. Diarbekr, Bitlis, Ur(u)miah, and Kermanshah are the principal towns. Wool, butter, gum, raisins, hides, and sheep are produced. The Kurds, or Koords, are a wild, pastoral, partly nomadic people. Each different tribe has its own chief, nominally subject to the Porte and the Shah of Persia. The Yezidis of the Singar range show traces of Zoroastrian influence, while the rest are mostly Mohammedans of the Sunni sect. N. of Mosul there is a large Christian population, but the Kurds are very hostile to Christians, and their cruel massacres of the Armenians are well known. Area about 71,990 sq. m. Pop. about 2,500,000. *See* Millingen, *Wild Life among the Koords*, 1890; Creagh, *Armenians, Kurds, and Turks*, 1880; writings of Chantre (1889, 1898), of Jaba (1860-79), and Houssaye (1888); Lynch,

Armenia, 1901; Jackson, *Persia Past and Present*, 1906.

Kurgan, a tn. on the Siberian Railway, gov. Zobolsk, in an agricultural district of Asiatic Russia. It has a flourishing trade in cattle and food stuffs. Pop. 11,000.

Kurgans are prehistoric burial mounds which are found in various parts of Russia and Siberia.

Kuria-Muria, a group of rocky islands in the Arabian Sea, which have been in British possession since 1854. They are five in number and have a total area of 28 sq. m. They are chiefly used as a cable station, but guano is obtained.

Kuriles, or Kuril Islands, the Japanese *Chishima* (Thousand Isles), a group of some thirty islands in the N. Pacific, lying between Kamtchatka and Yezo, owned by Japan. A continuation of the volcanic mountains of E. Asia, they form a province of Hokkaido. Chikuratski, Blakiston, Milne, and other peaks abound in forests. The inhabitants are Kamtchadales and Ainos, and trade chiefly in furs and fish. The chief islands are Iturup, Kunashiri, Paramushiri, Shamshu, Amakutan. Tomari is the port nearest Japan. Pop. about 4400. *See* Snow, *Notes on the Kurile Islands*, 1896.

Kurla, a tn. of British India, Salsette Is., on the S. coast, 8 m. N.E. of Bombay, with which it is connected by the Sion Causeway. It has large cotton mills. Pop. 15,000.

Kurland, or **Courland**, a Baltic prov. of Russia with the Gulf of Riga on the N., and the Baltic on the W. The surface is generally low, and the coastlands are flat and marshy. The climate is temperate. There are many rivers, but only three are navigable, the Dwina, the Aa, and the Windau. Agriculture is the chief occupation, [illegible] developing, [illegible] the cap.) and [illegible] ipal industries [illegible] the making of machinery and iron goods, glass, and [illegible]

[illegible]

There are no ports in the Gulf of Riga, and only three good ones on the Baltic coast, Libau, Windau, and Polangen. Area 10,435 sq. m. Pop. 741,200.

Kuroki, Itei, Count (*b.* 1844), a Japanese general, born in Satsuma. He figured prominently in the later stages of the Chino-Japanese War (1894-95), and greatly distinguished himself. In the Russo-Japanese War (1904-5) he commanded one of the armies in Manchuria, won the battle that isolated Port Arthur, and was present at Liao-Yang, Chaho, and Mukden. He was created count for his services in this war, having previously been made baron for his services in the war with China.

Kuropatkin, Alexei Nikolaievitch (*b.* 1848), a Russian general, entered the army in 1864, and distinguished himself in the Kashgar campaign. In the Russo-Turkish War of 1877-78 he was chief-of-staff to the younger Skobeleff, and laid the foundation of his great reputation as a soldier. After the death of Skobeleff in 1882 he re-organised the Russian army. He was Commander-in-Chief in Caucasia in 1897, and Minister of War in 1898. On the outbreak of the Russo-Japanese War (1904-5) he was appointed to the chief command in Manchuria, but met with a series of reverses culminating in the disastrous battle of Mukden. His failure may have been partly due to not having an entirely free hand. After Mukden, he resigned in favour of General Linievitch. He wrote a history of the war, in which he candidly admitted his own mistakes. He had previously published works on the Balkan and Central Asian wars.

Kurrachee, *see* KARACHI.

Kursaal, *see* CASINO.

Kursk: 1. Gov. of S. Central Russia (Europe), adjoining Little Russia in the basins of the Dnieper and the Don. There are hills of limestone and sandstone in the E., but the rest is chiefly flat plains of fertile arable land (black earth), watered by numerous small streams. Hides, bristles, grain, and hemp are produced, also some beetroot and tobacco. There are fine nursery-gardens and orchards, and the honey and cattle of K. are noted. The region first came under [illegible]; it was part of [illegible] Ukraine from t[illegible] century, the present government being formed in 1797. The inhabitants are chiefly Russians, belonging to the Orthodox Church. Area about 17,937 sq. m. Pop. about 3,016,700. 2. The cap. of above, on R. Kur and the Moscow-Sebastopol Railway. There are manufs. of candles, soap, spirits, tobacco; flour-mills, tanneries, and distilleries. The Korennaya Fair is held here about Easter. There are two monasteries, a cathedral, and an observatory. K. was pillaged by Tartars (1240), and suffered from riots subsequent to the Russo-Japanese War (1905). Pop. 81,527.

Kuruman, a missionary station in Bechuanaland, S. Africa, on the Kuruman R., 120 m. N.W. of Kimberley. Pop. 1681.

Kurume, a tn. of Kiushiu, Japan, 50 m. N.E. of Nagasaki. Pop. 36,000.

Kurunegala, the chief tn. in the W. prov. of Ceylon, was the seat of a royal residence in the 14th century; it is 59 m. from Colombo, and has crops of rice, tobacco, tea, coffee, cocoa, etc. Pop. 6483.

Kus, a tn. on the site of the ancient Apollinopolis Parva in the prov. of Keneh, Upper Egypt. Pop. 10,500.

Kushiro, a tn. on the S.E. coast of Yezo, Japan, cap. of Kushiro prov. It is the nearest port to the sulphur mines of Yezo, and is open to foreign trade. Pop. 16,000.

Kushk, a military port and fortress on the border of Russian Turkestan. It is on a Russian branch railway from Merv.

Kusi, Kosi, or Koosee, a river of India, which rises in the Himalayas of Nepal, flows S., and finally enters the Ganges. It has a length of 325 m.

Kuskoquim, or Kuskokwim, a river of Alaska which flows into Kuskoquim Bay. It is over 500 m. long, and is navigable for three-fifths of its course.

Küssnach, a com. of Switzerland, 7 m. E.N.E. of Lucerne, at the N. end of Lake Lucerne. Here it was that William Tell escaped from Gessler. Pop. 3600.

Kustanaisk, a tn. on the Tobol R. in the prov. of Turgai, Asiatic Russia. There are tanneries and potteries, and tallow is manufactured. It contains a cathedral. Pop. 15,000.

Küstendil, *see* KOSTENDIL.

Küstenji, *see* CONSTANTA.

Küstenland (coast-land), a prov. of Austria-Hungary at the head of the Adriatic, which embraces Istria, Trieste, Görz, and Gradiska. Chief town, Trieste. Pop. 894,457.

Küstrin, a fortified tn. of Prussia, on the Oder, in the prov. of Brandenburg, 52 m. E. of Berlin. Its fortress dates from the 16th century, and was captured by the French in 1806, who held it until 1814. There are manufs. of machinery and cigars. Pop. 17,596.

Kutaiah, Kutaya, or Kuitahia, the ancient Cotiæum, a tn. of Asiatic Turkey, in the prov. of Brusa. There are several Christian churches, and a large ancient fortress. The pop., about 30,000, are chiefly Mohammedans.

Kutais: 1. A prov. of Transcaucasia, Russia, E. of the Black Sea. It has a very varied surface consisting of lowlands along the shore of the Black Sea, and mountains in the N. and S. It has a moist, warm climate, and the land is well cultivated. Indian corn and wheat are the chief crops, but vineyards cover a large area, and there are also cotton plantations. The bee and silkworm are cultivated, and the province contains some extensive forests, and exports timber. The chief mineral is manganese-ore, which is largely exported, but copper, silver, coal, zinc, and naphtha are also found. Area 8166 sq. m. Pop. 990,800. 2. A tn., cap. of the gov. Kutais, on the R. Rion. It is a very old town, and is said to have existed in 1200 B.C. It contains the ruins of an 11th-century cathedral, and has a good botanical garden. Pop. 50,396.

Kutch, *see* CUTCH.

Kutno, a
Russian Polan
It has brewer
11,000.

Kuttenberg, a mining tn. in Bohemia, Austria, 40 m. E.S.E. of Prague. There are manufs. of tobacco, sugar, and cotton, and the town contains a 13th-century royal castle. Pop. 15,671.

Kuty, a tn. of Galicia, Austria, 35 m. W. of Czernowitz. It has morocco leather factories and exports pitch. Pop. 11,715.

Kuwana, a tn. of Hondo, Japan, 55 m. E. of Kyoto. Pop. 21,000.

Kuyper (or Kuijper), Abraham (*b.* 1837), a Dutch theologian and politician, studied at Leyden. He became successively pastor of the Reformed Churches at Beest, Utrecht, and Amsterdam (1863-70). As editor of *De Standaard* (1872) and the *Heraut* (1878) he violently opposed 'modernism' and defended Calvinism. He was elected to parliament (1874-77), and set forth his political aims in *Ons Program* (1879). K. founded the Free University of Amsterdam (1880) and Reformed Free Churches (1886). After bringing about the alliance between orthodox Protestants and the Roman Catholic party, he became Prime Minister (1901-5). His works include the editing of the *Encyclopædia Sacræ Theologiæ*, 1898-1901; and of *Joannes à Lasco opera*, 1866; *Calvinism; The Incarnation; Socialism and Christianity; The S. African Crisis.*

Kuznetsk: 1. A tn. in Saratov gov., European Russia. It has hardware manufactures, and there are also tanneries and boot and glove factories. Harness and carriage-wheels are also made. Pop. 25,400. 2. A tn. in the Altai region, Tomsk gov., W. Siberia, Asiatic Russia, in a mining district, 200 m. S.E. of the town of Tomsk. Pop. 9000.

Kwala Lumpur, *see* KUALA LUMPUR.

Kwang-chau-fu, the Chinese name for Canton, the port and cap. *See* CANTON.

Kwang-chau-wan, a bay of great importance, coaling station and port on the Lei-chau Peninsula, S. China. It was leased to France in 1898-99. Pop. 190,000.

Kwang-hsu (1875-1908), Emperor of China, born in 1871. Although he [illegible] er, the Empress [illegible] power, and con- [illegible] t, after having succeeded in putting him on the throne. In 1898, although she had retired from power, she compelled him to issue an edict again making her regent, and this influence she exercised until the end of his reign.

Kwang-si, an inland prov. of China, bounded on the N. by Kweichou, and on the S. by Kwang-tung. It is almost entirely in the basin of the Si-kiang, the main stream of which traverses the centre of the province from W. to E. The surface is mountainous, and valuable timber is obtained, and cinnamon of excellent quality. Silver is the only mineral worked with advantage, but gold, copper, lead, tin, and coal are all found, the latter especially in the country round Po-se. The chief articles of commerce are timber, indigo, sugar, and tea. Area 78,250 sq. m. Pop. 5,142,330.

Kwang-tung, a maritime prov. of S.E. China, bounded S. and E. by China Sea. It includes Hainan Is. The chief river, Chu-kiang, or Pearl R., is formed of three branches, Sikiang (the largest), Pekiang, and Tungkiang. There are great facilities [illegible] coasting [illegible] ports are [illegible] Pakhoi, [illegible] Fruits, [illegible] grains, [illegible] cury, cc cassia, [illegible] embroidery, and lacquered wares manufactured. There are fishing and salt industries. The lease of part of this province (S. Liaotung Peninsula), expiring 1923, was transferred by treaty (1905), with China's consent, from Russia to Japan. Area about 99,970 sq. m. Pop. 31,865,251.

Kwang-yen, the cap. of a prov. of the same name, French Indo-China, on the Song-koi delta, 60 m. E. of Hanoi. It is accessible at all times to very large vessels. Pop. 40,000.

Kwanza, *see* COANZA.

Kweichau, or Kwei-chow, an interior prov. of China, bounded on the S. by Kwang-si and on the N. by Szechuen. The surface is on the whole mountainous, and the chief river is the Yangtse-kiang, with its tributary the Wu. The climate is unhealthy, stagnant waters and marshes being the cause of frequent outbreaks of fever. Wheat and maize are the principal crops, with tea, opium, and tobacco, but the agricultural products of the province are limited, its chief wealth lying in its minerals. Iron is extracted in the valley of the Wu, which is also rich in coal, and copper is obtained in the vicinity of Kanchui. There is also a considerable amount of mercury, which was formerly a principal article of commerce, and gold, silver, tin, and lead exist. The province is also noted for its horses. Area 67,160 sq. m. Pop. 7,650,282.

Kwei-yang-fu, a tn. of China, cap. of the prov. Kweichau, lies near a coal district, and from its position is of great importance commercially.

Kwen-lun, *see* KUEN-LUN.

Kyaukpyu, a seaport of Arakan, is at the N. end of Ramri Is. It is the chief town of the district of the same name. The harbour extends for many miles, but is rendered dangerous by numerous sunken rocks. Pop. 3145.

Kyaukse, the northernmost district of the Meiktila div., Upper Burma, is irrigated by numerous rivers and canals, and the chief product is rice. Kyaukse town, the headquarters of the district, is on the right bank of the Zawgyi R. Pop. of dist. 141,250; of town 5420.

Kyd (or Kid), Thomas (1558-94), an English Elizabethan dramatist, one of the most important before Shakespeare. Hawkins roused interest in his name (*c.* 1773) in connection with *The Spanish Tragedy* (1584-89, printed 1594), dealing with the story of *Hieronimo*. This play and others of his enjoyed popularity on into Stuart times. The Ur *Hamlet* (original draft of the tragedy of the Prince of Denmark) was probably a lost play by K. (1587). *See* Boas, *Collected Works and Life*, 1901; Mauly's ed. in *Specimens of Pre-Shakespearian Drama*, ii., 1897; Sarrazin and Koeppel in *Englische Studien* (xv. pt. ii., xvi. pt. iii.); Sarrazin in *Anglia, Kyd und sein Kreis*, 1892; Greene's *Menaphon* (Nashe's pref.); Ward, *History of English Dramatic Literature*, ii., 1881.

Kyffhäuser, the name of a double line of hills in Thuringia, to the S. of the eastern extremity of the Golden Aue, between Kellra and Frankenhausen. The northern portion lies in the valley of the Golden Aue. The southern crest is surmounted by the ruins of a castle, where Frederick Barbarossa was supposed to be asleep ready to reappear when the old German empire was restored to its ancient glory. Here also was a residence of the Hohenstaufen imperial family, which was destroyed in the 16th century. An equestrian statue to the Emperor William I. was erected in 1896.

Kyle, the middle dist. of Ayrshire, between the R. Irvine and the R. Doon. It was in this district that Robert Burns was born.

Kyles of Bute, a sound between

Argyllshire coast and the N. of Bute, noted for its beautiful scenery.

Kynaston (or Kinaston), Sir Francis (1587-1642), a poet and scholar, founder of 'Museum Minervæ,' Covent Garden. He found favour with Charles I., who knighted him and granted him in 1635 a house which was to be called 'Museum Minervæ,' to serve for the promotion of the arts (see *Constitutions of the Museum Minervæ*, 1635). *Corona Minervæ*, a masque written by K. himself, was acted here. K. cannot be said to have succeeded as a poet. He wrote a Latin version of Chaucer's *Troilus and Cressida*, though only books i. and ii. were published. Some of his other works are: *Musæ Querelæ de Regis in Scotiam Profectione*, 1633; *Musæ Aulicæ Arthuri Johnstoni, interprete F. K.*, 1635; *Leoline and Sydanis*.

Kyneton, a tn. in co. Dalhousie, Victoria, Australia. It manufs. carriages and agricultural implements, and has a school of mines. Pop. 3400.

Kyôsai, Sho-fu (1831-89), a Japanese artist, soon discovered that the great revolution of 1867 gave him admirable opportunities for developing his very marked bent for political caricature. His spirited drawings, enriched by a wealth of happy and original fancies, endeared him to the people, but on more than one occasion led to his imprisonment by the party whose susceptibilities he had offended. K. has illustrated many books, including *Yehon Taka-kagami*, 1870, and *Kyôsai Gwaden*, 1887.

Kyoto, *see* KIOTO.

Kyrie Elēison, the form in which the Greek words *κύριε ἐλέησον* usually occur in the Latin service-books of the West. Their occurrence is frequent in the Latin books, but much more frequent in the Eastern Church services. The translation, 'Lord have mercy upon us,' occurs in the English Prayer Book at Matins and Evensong. It also occurs in an expanded form after each of the commandments at the beginning of the Communion service.

Kyrle, John (1637-1724), eulogised as 'the Man of Ross' by Pope in his third *Moral Epistle*; received this cognomen from the town in Herefordshire in which he passed most of his days. Here he devoted himself to the improvement of the town and its social conditions. He also attempted to bring about a moral improvement by diffusing a spirit of charity everywhere. The Kyrle Society was formed in memory of his work in 1877.

Kyshtym, a tn. in the gov. of Perm, E. Russia, on the Siberian Railway, 55 m. N.N.W. of Chelyabinsk. It is the centre of a great mining district, and has flourishing ironworks. Pop. 13,000.

L

L, the twelfth letter of the alphabet, often called a 'liquid,' is produced by a lateral emission of the breath, while the tip of the tongue is brought into contact with the front of the palate. Semitic *lamed* was written ⅂, which developed in Latin to its present form L, while Greek *lambda* was inverted thus Λ, developing to Λ. O.E. initial *hl*, *wl* is represented in N.E. by *l*, *e.g.* O.E. *hleahtor*, *wlæc;* N.E. *laughter*, *luke-warm*. L medially before a consonant, pronounced in O.E., has frequently become silent, after having modified the preceding vowel, and in some cases has been dropped, *e.g.* O.E. *wolde*, *swilc*, *healf;* N.E. *would*, *such*, *half*. In Scotland the *l* is sometimes retained, though lost in N.E., *e.g.* O.E. *ælc*, N.E. *each*, Scottish *ilka*. In Scotland, too, final *l* is often dropped, as in *a'*, *awfu'*, for *all*, *awful*.

L, as a symbol, often written £, denotes pound, from Latin *librum;* in Roman figures it equals fifty, and in chemistry it equals *lithium*.

Laager (Dutch *leger*, Ger. *lager*), a temporary camp in S. African campaigning, formed by a ring of ox-wagons set close together. First adopted by the Dutch pioneers in 'trekking.'

Laaland, or Lolland (low land), a Danish island to the S. of Sjaelland at the southern entrance to the Great Belt, with an area of about 450 sq. m. It is difficult of access by reason of the surrounding shallows. The surface is very flat and the soil fertile. Capital Maribo. Produces corn, hops, apples, timber, hemp, etc. Pop. 74,161.

Laar (or Laer), Pieter van, *see* Bamboccio, Peter de Laerne.

Labadie, Jean de (1610-74), a French mystic and Protestant reformer, born at Bourg-en-Guienne. He was originally a Jesuit, but joined the Reformed Church in 1650. He became pastor at Middlebourg in 1666, but was soon compelled to resign on account of the singularity of his views. His doctrine received the name of Labadism, and he founded a sect known as the Labadists, which dis- [illegible] middle of the [illegible] is works are: [illegible] *pril*, and *Le* [illegible]

La Barca, a tn. in the state of Jalisco, Mexico, 90 m. S.E. of Guadalajara. Pop. 10,000.

Labarum, the name applied to the sacred military standard of the early Christian Roman emperors. Constantine the Great was the first to use it to commemorate his miraculous vision in 312. It had the form of a long gilded spear or staff, with a bar crossed at the top, with a square purple cloth, richly jewelled, depending from it. On the point of the spear was the sacred monogram formed of the first two letters of the name of Christ, encircled by a golden wreath. The cross was substituted for the Roman eagle.

Labdacus, in Greek mythology, the legendary king of Thebes, son of Polydorus and father of Laius. He founded the dynasty of the Labdacides, and was the grandfather of Œdipus.

Labé, Louise (1526-66), a celebrated French poetess, surnamed la Belle Cordière, born at Lyons. From an early age she had a love of adventure, and is said to have followed the French army in Roussillon, being known as Captain Loys. On her return from soldiering, she married a wealthy ropemaker, and gathered around her all the distinguished and literary society of Lyons. She has written some of the finest love poems in the French language, and is the most famous French female poet of the 16th century. Her poetical works were published in 1555, and she also wrote a prose work entitled *Débat de la folle et de l'amour*. *See* Charles Boy, *Recherches sur la vie et les œuvres de Louise Labé*.

Label, or Lambel (Fr. *lambeau*), a mark of cadency in heraldry, indicating the eldest son of a family. It is a fillet from which hang three pendants, formerly placed at the top of the shield, but now borne rather lower. The sons and daughters of the royal house of England bear their arms differenced by a L. of three points argent. The L. of the eldest son, the Prince of Wales, is plain, that of the younger princes, variously charged. In Scotland differencing is more varied, and the modern marks of cadency are less in use.

Labeo, Marcus Antistius (c. 50 B.C.-18 A.D.), a famous Roman jurist, whose father figured amongst Julius Cæsar's conspirators, and after the battle of Philippi, committed suicide. Entered public life at an early age as a member of the plebeian nobility, and before long rose to the prætorship. He was an ardent republican and for that reason failed to find

favour with Augustus, who did not promote him to the consulate in the year he should have held office. L. devoted nearly all his time to the study of jurisprudence and is said to have written over 400 books. His most important literary work was the *Libri Posteriorum*. *See* Van Eck, *De vita, moribus, et studiis M. Ant. Labeonis*.

Laberius, Decimus (*c.* 105-43 B.C.), a Roman knight, famed for his mimes or burlesque dramas; the chief of those who introduced the mimus into Latin literature, and a man of learning and culture. At the command of Julius Cæsar, he appeared, in 45, in one of his own mimes in a public contest with the actor, Pubilius Syrus, and was courageous enough to point his satire against Cæsar, who awarded the victory to Pubilius. Only fragments of his writings remain. *See* O. Ribbeck's *Comicorum Latinorum reliquiæ*, 1873.

Labiana, a tn. in prov. of Oviedo, Spain, 16 m. S.E. of the town of Oviedo; has coal-mines and iron, copper, and other metallic ore deposits. Pop. 8000.

Labiatæ, the name given to an important order of dicotyledonous plants, consisting of about 3000 species which thrive in all parts of the world. The species are herbaceous or shrubby, the majority are landplants, but a few are found in marshes; they are characterised by their square stems and opposite decussate leaves as well as by the flower. The inflorescence is a verticillaster of bilabiate ringent flowers; the sepals and petals are each five in number and united, there are four didynamous and epipetalous stamens, the superior ovary consists of two united carpels and is quadrilocular; the fruit is a carcerules. Some of the chief genera are *Lamium*, *e.g.* deadnettle, *Salvia*, *e.g.* sage, *Mentha*, *e.g.* thyme.

Labiche, Eugène Marin (1815-8[illegible]), a French dramatist, born and died [illegible] Paris. In 1838 he published a no[illegible] entitled *La Clef des Champs*, and in the same year he made a double venture on the stage with a drama, *L'Avocat Loubet*, and a vaudeville, *Monsieur de Coislin ou l'homme infiniment poli*, both of which found popular favour. In 1851 appeared his farce, *Un Chapeau de paille d'Italie*, a fine specimen of French imbroglio, followed by *Embrassons-nous, Folleville ; Un Garçon de chez Véry ; Le Voyage de M. Perrichon ; La Cigale chez les Fourmis*, and several others. *See* preface to the *Théâtre Complet* by Emile Augier.

Labienus, Titus Atius, a Roman [illegible] tribune of the plebs, 63 B.C. Under the consulate of Cicero he distinguished himself as Cæsar's legate in the Gallic War, twice defeating the Treviri (B.C. 54) and taking part in the campaign against Vercingetorix. At the outbreak of the Civil War he sided with Pompey (49 B.C.) and displayed great cruelty in his treatment of Cæsar's soldiers. He went to Africa after the defeat of Pharsalia and finally fought against Cæsar at Munda in Spain, where his troops were routed and he was killed.

Lablache, Luigi (1794-1858), a Franco-Italian operatic singer, born at Naples, where he studied at the Conservatorium under Gentili and Valesi. At the age of twenty he had developed a magnificent bass voice, and made his first appearance at Naples in Fioravanti's opera, *La Molinara*. He then visited Milan, Turin, Venice, and Vienna. In 1830 he appeared in London and Paris, meeting with great success and being engaged to appear annually in both these cities. He taught Queen Victoria singing for a time. On the operatic stage he was equally successful in tragic and comic parts, among his principal rôles being Leporello in *Don Giovanni*, Caliban in *The Tempest*, though Don Bartolo in *Il Barbiere* is considered his best creation.

Laborde, Jean Benjamin de (1734-94), a French composer of music, born at Paris. He studied the violin under D'Auvergne, and was a pupil of Rameau for composition. His chief work is *Choix de Chansons mises en Musique*, in 4 vols. and charmingly illustrated. He also wrote *Essai sur la Musique ancienne et moderne* (1780), and several other works on music, besides songs and some unimportant operas. L. was a victim to the guillotine, July 22, 1794.

Labori, Fernand Gustave Gaston (*b.* 1860), a French advocate born at Rheims, where he was educated, and [illegible] two years in Ger[illegible] He was called to [illegible] l won celebrity in many famous cases, notably in his defence of Zola, accused of libelling the French executive and army; in the Dreyfus appeal; and the Humbert case (1903). He has published *The Répertoire Encyclopédique du Droit Français*, and is editor-in-chief of the *Grande Revue*.

Labouchere, Henry, Baron Taunton (1798-1869), an English politician, born at Hylands, Essex, died in London. Descended from a French family which emigrated to Holland after the revocation of the Edict of Nantes, and then settled in England. In 1826 L. entered the House of Commons on the Whig side, and was successively

Lord of the Admiralty, Under-Secretary of War, President of the Board of Trade, Chief Secretary for Ireland, and Colonial Secretary. Created a baron in 1859.

Labouchere, Henry Dupré (1831-1912), an English journalist and politician, son of Henry L., Baron Taunton. Educated at Eton and entered diplomatic service in 1854, being attached to the embassies of St. Petersburg and Dresden. In 1864 he entered parliament on the Liberal side, being one of Gladstone's most faithful supporters, and from 1867-68 represented Middlesex; was a member for *Northampton from 1880-1905*, when he retired. He was editor and proprietor of *Truth*, founded in 1876, a society paper, successful in the exposure of scandals of a various nature. Also part proprietor of the *Daily News*, and contributed a series of letters to this paper, during the siege of Paris in the Franco-German War, as 'A Besieged Resident.' In 1896 was a member of the Jameson Raid Commission. See *Life* by Jerningham, 1913.

Laboulaye, Edouard René Lefebvre de (1811-83), a French author, jurist, and politician, born at Paris. He entered the bar in 1842; in the following year was elected a member of the Academy, and in 1849 became professor of jurisprudence at the College of France. In 1855 he edited the *Revue historique de Droit*, continuing to do so till 1869. From 1870-76 he was editor of the *Revue de Législation*, and from 1877-83 of the *Nouvelle Revue Historique*. He also published *Contes bleus, Contes amusants, fins et spirituels, L'Evangile de la Bonté, Souvenirs d'un Voyageur*, and numerous works on French law.

Labour. In the language of political economy L. is one of the two requisites of production, the other being, in Mill's words, 'appropriate natural objects.' In short, L. is the motive power of man upon the objects of the physical world, for, as Mill points out, all the L. of the world could not produce one particle of matter, *e.g.* to weave broadcloth is but to rearrange in a peculiar manner the particles of wool. L. is said to be either productive or unproductive. By the latter is meant that L. which does not augment the material wealth of the community. The former is further subdivided into directly and indirectly productive L., the former category comprising all that manual work which is especially employed on material processes, the latter 'nervous' or mental work. In common parlance the term appears to

[illegible] an- hat

the Socialist schools of thought ordinarily use the term 'worker' as a synonym for 'manual worker,' has not only resulted in bringing into sharp political juxtaposition those who work with their hands and those who do not, but has fostered a very general sympathy with the former on the ground that though they are the actual physical [illegible] they enjoy the [illegible] profits accruing [illegible] economist regards unproductive L. as L. that not only does not render the community richer in material products but poorer by all that is consumed by the labourers while so employed; but, as Mill points out, unproductive L. may well be as useful as productive, or more so, even in point of permanent advantage, for not all utility can be measured by material embodiment, *e.g.* the self-sacrifice of polar explorers like Capt. Scott and his band, or the brilliant rendering of a beautiful song, are acts which will do no more than leave a sensation or impression; but the spiritual value of such impression may well be far more to some individuals than half the material riches of the world. Economically the most striking feature of L. is the fact that as society progresses it becomes increasingly divided, a fact which really renders the actual operation of a worker on a single process a less valuable factor in the final result (*see also* Division of Labour). Co-operation of L. is in the view of many economists a still more effective agent in increasing the efficiency of L. than that of the division of L. There are two kinds of co-operations of L.: (*a*) Simple co-operation, or that which takes place when several persons assist each other in the same employment, and (*b*) complex co-operation, when they assist each other in different employments, *e.g.* one set of persons may sow cotton-seed, another set pack it, and other sets manufacture it into cloth. But it is obvious that from one point of view the distinction between complex co-operation and division of L. may be merely verbal.

[illegible] eform- s. The Com- oes not of en- couraging the establishment in England of L. C., whether for voluntary admission or compulsory detention of vagrants or persons of a similar character. The more important existing L. C. on the Continent are those in Holland, Belgium, Germany, and Switzerland. In 1818 General van den Bosch established in Holland

under royal patronage a charitable organisation, 'the Society of Beneficence' for the purpose of employing the poor on the land. Colonies were acquired by the society in Holland, and established others at Wortel and Merxplas in Belgium. The Dutch L. C. are divided into (*a*) free colonies for indigent persons, and (*b*) beggar colonies for the repression of mendicity. Men with their families were settled in the free colonies as small farmers or labourers with the view to fitting them to earn an independent livelihood. The scheme was not successful as the original entrants remained in the colony and few fresh cases were received. In 1906 there were three free L. C., viz. Frederiksoord, Willemsoord, and Wilhelminasoord, all maintained by subscriptions. The total population in all three was 2179 in 1827, 2007 in 1873, 1796 in 1887, and 1460 in 1902. The beggar colonies were intended for the compulsory detention of vagrants. The chief of these colonies were at Ommerschans, Veenhuizen, and Merxplas. The colonies were penal rather than reformatory, and a severe discipline was maintained by the society. The burden of maintaining these colonies became too heavy for the society, and ultimately, in 1859, the state had to take the colonies over itself. The beggar colonies are now concentrated at Veenhuizen and cover 3000 acres, at which are detained some 3000 to 4000 vagrants. There is a separate institution of a similar kind for women at Hoorn.

In Belgium, under the law of Nov. 27, 1891, state institutions of two kinds were established: (1) Dépôts de Mendicité, and (2) Maisons de Refuge. The former are intended for the reception of able-bodied professional beggars, vagrants, and certain other classes of people, such as inebriates and persons convicted of immoral offences. The chief depôt is at Merxplas. Persons are admitted to these depôts by a *juge de paix* on summary conviction for a period of not less than two or more than seven years. The intention of the Act is to treat habitual vagrants and beggars not as criminals requiring punishment, but, pathologically, as persons requiring treatment on account of their mode of life. The work of the Merxplas colony consists of land re-

[illegible]

the evidence before the committee [illegible]

[illegible]

any work in which he may have been previously experienced. There is no difficulty in disposing of the products and the money value of the work done is considerable. The colonists earn sums varying from one penny to threepence a day, according to the work done, one half being retained by the management till discharge and the other given monthly to spend at the canteen. Seven years is the maximum term of detention in a depôt, but the average time is sixteen months. In Merxplas, however, most of the inmates are permanent residents, the great majority of them being there owing to drink. The purpose of a Maison de Refuge is to receive men too old or infirm to work, or who through want of work or misfortune, have been driven to begging or vagrancy. It is in most respects similar to the English workhouse. There is power to detain persons for a period not exceeding one year, but destitute persons, furnished with an order from their commune, may enter voluntarily. The chief Maison de Refuge is at Hoogstraeten, the Wortel section of that institution being reserved for able-bodied colonists. There is also a depôt and refuge for women at Bruges on similar lines. All the L. C. of Belgium are subject to state inspection and control.

In Germany in 1906 there were some thirty-four L. C. under the management of the Labour Colony Central Board, with accommodation for about 4000 persons. The system is less developed than in Belgium or Holland, and effects less practical good, because there is no compulsion to remain in the colony, and admission is voluntary. The average time of remaining seems to be about three months. The colonies are supported out of grants by the provincial and municipal authorities and voluntary subscriptions. Most of the colonies are agricultural, but there are some industrial colonies such as those at Berlin and Magdeburg. As a result of German protective ideas, the inmates are allowed to work only at such industries as will not compete with independent manufacturers. The bulk of the inmates appear to be unemployed workmen and tramps, who come in and out of the colonies, especially in winter, and have earned for themselves the name of 'colony loafers.' There being no reformatory element in these institutions, it is not

[illegible] ising that no substantial im- [illegible]ment results from the time in them. Habitual vagrants and persons who neglect to maintain [illegible]nselves are far more effectively [illegible]t with in the Arbeitshäuser (liter- [illegible], workhouses) which correspond not to the English workhouse, but to the forced labour farms of Switzer-

land, and the compulsory L. C. of Belgium and Holland. They are penal in character and intended for the detention of persons after imprisonment for certain specified offences, such as wandering about as a vagabond, begging, and applicants for relief through gambling, drunkenness, or idleness. The average term of detention is one year. The punishment consists of confinement to cells, reduction of diet (generally vegetarian), and sleeping on the floor. In 1906 there were twenty-four such Arbeitshaüser with accommodation for 14,836 persons. They are under ... and the in- at domestic ork. Skilled teachers are employed to supervise the work done.

In Switzerland in 1906 there were both voluntary and compulsory L. C. The voluntary numbered only three and were managed by philanthropic societies. Persons admitted to voluntary L. C. must agree to stay for one or two months. Nearly every canton has a compulsory colony or forced labour farm, managed by a cantonal council, the Federal government neither taking any share in the management nor inspecting the farms. Persons found begging are taken before a magistrate or district council. The former can sentence him, if an habitual offender, to imprisonment up to six months, or to detention in a colony for a period from six months up to two years. If a man be taken before a council and the latter find him 'work shy,' they can send him to a colony for a period of from three months to two years. The forced L. C. are all small, the largest, that in Witzwyl, containing only some 200 inmates. No money is received by the inmates, and there is but little restrictive discipline, owing, it appears, to the strict passport system of Switzerland, which makes escape useless. The work done is chiefly land reclamation and farm work; tailoring, shoemaking, smith's work, carpentering, and basket-making are also carried on by inmates with a knowledge of such trades, there being, as at Merxplas, no apprenticeship system. According to Mr. Preston-Thomas (*Methods of dealing with Vagrancy in Switzerland*), vagrancy and begging have diminished in Switzerland, owing partly to police regulations, but partly to the forced L. C., which seem to exercise a greater reformatory influence than those of other countries, probably because they are small. Few inmates come there repeatedly, but the extent of reformation is purely conjectural.

In England the closest approach to the continental forced L. C. were the old houses of correction, but at the present time the convict establishments alone resemble such colonies, in the fact that a great deal of convict-labour is carried on. There are, however, certain institutions established by charitable agencies for vagrants. The largest of these latter institutions is the farm colony of the Salvation Army at Hadleigh in Essex, with accommodation (in 1906) for about 400 inmates. Some sixty or seventy inmates are accommodated at Lingfield in Surrey, a training colony established by the Christian Social Service Union, which union also has a smaller colony at Starnthwaite in Westmorland. An experiment has also been made at Hollesley Bay in Suffolk. This colony was established by the Central London Unemployed Committee in 1904-5 for the reception of selected cases of unemployed workmen willing to undertake agricultural work. The English colonies differ from the continental in that there is no power of compulsory detention, and also in the fact that they are not primarily intended for the vagrant class. Hadleigh comprises 2000 acres of land and 1000 acres of foreshore, with about 250 colonists; the work done is mainly agriculture and brick-making. The system at this colony, according to the Departmental Committee, gives encouragement to the man who is trying to improve himself, but the results are difficult to estimate, because there is so little reliable information as to what the inmates do after leaving the colony. The capital cost of the colony works out at about £300 a head. Lingfield, like Hadleigh, is founded on a religious basis, and is essentially a farm-training colony. Most of the inmates are sent there by boards of guardians. Some 40 per cent. of the inmates are said to go to Canada, where they obtain independent positions. The Laindon colony was established by the Poplar Guardians in 1904 as a branch workhouse for able-bodied male paupers. In Hollesley Bay it seems, from answers to questions asked in parliament and from the little evidence given before the committee, that the experiment, financially at least, is a failure. In March 1908 Mr. Burns stated in the House of Commons that the net loss per annum on the Hollesley Bay Colony was £21,000. There is also a small colony at Newdigate, Surrey, established by the Church Army as a test for emigrants.

The Borstal institution for boys (*see* BORSTAL) is in some respects a forced labour colony, and is

undoubtedly superior to adult continental colonies in that the whole basis of its reformative influence is the apprenticeship system.

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Labour Day, a legal holiday in New York and nearly all the states and territories of U.S.A. (the first Monday in September). It is observed by labour processions and organisations which parade the streets and hold meetings, and all banks and government offices are closed. L. D. was observed in 1909 as a holiday throughout the United States, with the exception of Arizona and N. Dakota.

Labourdonnais, Bertrand François de, Count Mahé (1699-1755), a French naval commander, born at St. Malo. Went to sea at an early age, and in 1718 entered the service of the French India Company. In 1724 he attained the rank of captain and displayed great bravery at the capture of Mahé, adding the name of the town to his own. In 1735 he served as governor of the Ile de France and Bourbon, an office he continued to hold for five years. At the end of this period he began a conflict with Britain for the naval sovereignty of the Indies and captured Madras in 1746. He was accused by his general, Dupleix, of peculation and maladministration of the affairs in India, arrested, and imprisoned for two years in the Bastille. He wrote: *Traité de la Mâture des vaisseaux*, 1723, and left valuable memoirs, published by his grandson.

Labourers and Labouring Classes. The definition of a labourer, so far as legal rights are concerned, is of but little importance, and decisions involving a definition relate almost exclusively to the liability of employers for accidents under the Employers and Workmens Act, 1875, and the Employer's Liability Act, 1880. The accepted definition is 'a man who digs and does other work of that kind with his hands.' But a motor omnibus driver has been held to be a manual labourer within the Act of 1880. The term 'labourer' is used in the Sunday Observance Act, 1677, in section 1, which forbids any 'tradesman, artificer, workman, or labourer' to exercise his 'ordinary calling upon the Lord's Day,' but the few decisions on that Act do not assist one to arrive at the meaning, for it has even been judicially doubted whether an 'agricultural labourer' is a 'labourer' within the meaning of the Act. The term is of no importance as regards the Housing Acts, for it has long given place to 'working classes,' which latter phrase has been judicially defined to mean 'the class of persons who ordinarily live in such a state and condition of life that overcrowding was likely to take place,' and by statute (Housing Act of 1903) as including 'mechanics, artisans, labourers, and others working for wages,' and also others working at some 'trade or handicraft whose income does not exceed on an average 30s. a week.' Politically, if the meaning of the terms may be inferred from the persons represented in parliament by a labour M.P., it may be said that all are labourers who either belong to a trade union or could belong to one if they chose.

Labourers, Statute of. At the Conquest, agricultural services were paid for in kind, the labourer or villein being really a serf attached to the soil. After these services were commuted for low money payments, the better class villeins became copyhold tenants, while the rest gradually obtained better terms. The Black Death, however, caused a great dearth of agricultural labour and wages went up, with the result that the Ordinance (*see* LEGISLATION AND LEGISLATIVE PROCESSES) of Labourers was issued in 1349 and re-enacted in 1351 as the S. of L., with the object of securing an adequate supply of field labour at the wages current prior to the plague. It provided that able-bodied persons should work in their own district at the accustomed rate of wages, while those who gave alms to 'sturdy beggars' should be punished with imprisonment. The consequence, however, was the rise of a class of really *free* labourers, in spite of the low rate of wages. *See* Felden, *A Short Constitutional History of England*; and Ashley's *Economic History*.

Labour Exchanges. These are local offices directly under the control of the Board of Trade established for the purpose of mobilising labour, gathering information as to employers requiring workpeople, and, conversely, as to workpeople seeking employment, and generally enabling applicants for labour to obtain it. They are an antidote to unemployment borrowed from Germany, and in view of the success attending the experiment in that country, it is remarkable that they were not established in England before the Act of Sept. 20, 1909, though in this connection considerable good had been

done by local distress committees under the Unemployed Workmen Act, 1905. The Act of 1909 empowers the Board of Trade to set up and maintain L. E. wherever they think fit, and to assist any L. E. maintained by other authorities. The Act provided that the powers of any central body or distress committee, and of any local council acting through a special committee, to maintain employment registers under the Unemployed

TABLE SHOWING BY TRADES THE VACANCIES FILLED BY THE LABOUR EXCHANGES DURING THE TWELVE MONTHS ENDING DECEMBER 29, 1910 (GENERAL REGISTER).

Trades	Men	Women	Boys	Girls	Total
Building	61,816	—	1,946	—	84,285
Other works of construction and roads	20,523				
Mining and quarrying	3,676	12	432	1	4,121
Metals, machines, implements, and conveyances					
Engineering and machines:					
Labourers	3,434				
Others	28,826				
Ships and boats	12,041	3,320	9,609	1,713	70,641
Vehicles	5,302				
Other metal trades	6,396				
Textiles	12,301	18,466	2,931	4,209	37,907
Dress:					
Boot and shoemakers	3,679	1,179	2,671	6,058	22,931
Others	1,639	7,702			
Conveyance of men, goods, and messages	31,069	431	30,085	1,722	63,307
Agriculture (including hop-picking)	9,775	5,606	1,132	546	17,059
Paper prints, books, and stationery	3,019	3,616	2,417	3,546	12,598
Wood, furniture, fittings, and decorations	7,637	1,170	2,317	749	11,873
Chemicals, oil, grease, soap, resin, etc.	2,824	1,171	519	1,083	5,597
Bricks, cement, pottery, and glass	1,906	1,069	681	282	3,938
Food, tobacco, drink, and lodging (bread, biscuit, cake-makers, etc.)	12,215	22,051	4,712	5,132	44,110
Skins, leather, hair, and feathers	737	979	463	891	3,070
Precious metals, jewels, watches, instruments, and games	1,326	316	764	340	2,776
Gas, water, and electricity supply, and sanitary service	5,647	102	299	73	6,121
Commercial	6,923	3,175	5,473	1,360	16,931
Domestic (outdoor):					
Laundry and washing	2,790	7,303	962	8,860	54,769
Others		34,854			
Other, general and undefined:					
(a) General labourers	57,653	—	1,500	—	59,153
(b) Others	11,069	11,815	8,520	7,884	39,288
Post office:					
Temporary Christmas Staff	32,788	30	445	1	33,264
Total	347,011	124,397	77,881	44,450	593,739

Workmen Act, 1905, might, after one year from the passing of the Act, only be exercised under the control and with the sanction of the Local Government Board, and that that sanction should not be given except after consultation with the Board of Trade. The Board of Trade is empowered to make general regulations with respect to the management of L. E., and the expenses incidental to administering the Act are payable out of moneys provided by parliament. The Act also provides that any person knowingly making false representations to any officer of a L. E. for the purpose of obtaining employment shall be liable to a fine not exceeding £10 The work done by L. E. in 1910 proved their utility Over a million persons applied for work, and some 374,313 vacancies out of 458,943 notified by employers were filled through the L. E. The vacancies filled by men workers comprised 47,042 in the building trade, 39,773 in the carrying trades, 33,609 in metal, machine, and implement industries, 25,899 in the Post Office temporary Christmas staff, 8,905 in agriculture, 6236 in textiles, 6646 in wood, furniture, and fittings, 6491 in food, tobacco, and drink trades, 7464 in general commerce; while boys to the number of 17,000 found employment in the carrying trade, 3600 in metals and machinery trades, 2000 in food and drink trades, and over 1000 in each of the building, textiles, and clothing trades. Indoor domestic work was found for 24,000 women, while 7000 vacancies were filled in each of the textiles and food and drink trades, 5000 in clothing industries, and over 4000 in agriculture. The chief trades or occupations in which vacancies were found for girls were outdoor domestic work, food, drink, and tobacco, paper and stationery, dress, textiles, and carriage of goods. London far outstripped other towns or cities in the number of its applicants (17,000), Manchester being next with only 2000, while in Birmingham, Leeds, and Liverpool, the number was only 1000 in each case. There were 1,945,763 applications for work, and, as shown above, 593,739 were met. As in the previous year, over 60,000 names remained on the register at the end of the year. On the casual register work was found for 112,492 men, and for 12,812 women. This separation of casual from general work was a novel feature in administration in 1911, and it is therefore difficult to present an exact comparison between the figures for 1911 and 1910. But on the whole the work done by the L. E. increased in proportion to the increase in unemployment. As before, the building and metal and engineering trades created the largest number of vacancies. By way of contrast generally it may be observed that the figures of the German L. E. show a decrease in unemployment all round. The estimates for the 1912-13 budget of expenditure on L. E. is not separately given, but together with the insurance supply service comes to over £3,000,000. The central office of the L. E. is at Queen Anne's Chambers, Westminster, S.W., the branch exchanges being classified into eight territorial divisions, each with its office and clearing-house, subject to the control of the Central Office. The Board of Trade is empowered to advance travelling expenses to applicants for work where work at a distance has actually been found for them, but such power is subject to restrictions in regard to trade union rates of wages and trade disputes. By the middle of 1912 there were some 382 L. E., and in connection therewith some 15 Advisory Trade Committees and 35 Juvenile Advisory Committees. A year later there were over 430 L. E., and non-casual vacancies were being filled at the rate of 3000 a day. In rural districts there are no L. E. as in London, but local post offices and travelling clerks perform the necessary work. The assumption that L. E. would be the resort of none but the casual or unemployable has been more than refuted by the statistics issued by the Board of Trade. But apart from this no more convincing proof of their utility in finding the right sort of man could be afforded than the fact that many large employers affix outside their gates notices to the effect that men will only be taken on through the exchanges. For full information as to statistics see the *Fifteenth Abstract of Labour Statistics of the United Kingdom*, issued in 1912 by the Board of Trade.

Labour Party, The, the name of a political organisation to be found in modern times in many countries which, broadly speaking, represents, or claims to represent, the interests and aspirations of Labour (*i.e.* the working class) as against the interests and ideals of Capital (*i.e.* the employing, or master, class). This political organisation may be revolutionary and have a definite Socialist goal, or it may, as in Great Britain, content itself with striving by constitutional means to ameliorate the conditions of labour by shortening hours and raising wages. The L. P. in Great Britain, which must be carefully distinguished from the *Inde-*

pendent Labour Party (the I. L. P.) (*q.v.*), is a purely Socialist body, ns, co-operaous socialist r to secure The first was Mr. J. L.P., and he held this position till 1911, when, on his becoming chairman of the party in the House of Commons, he was succeeded by the present secretary, Mr. Arthur Henderson, M.P. The party has at present (1913) forty representatives in the House of Come upon cars of known Committee (the L. R. C.). When formed in 1900 the membership was 375,000, and it succeeded in returning two members to the Commons in that year. As a parliamentary force it dates from the 1906 election, when its membership was 921,000, and when out of 50 parliamentary candidates 29 were elected. The L. P. by its constitutior other political it has formed Irish parties majority. The only country in the world which has experienced a Labour government in power is Australia, where that party has held the reins of office in both the federal and state parliaments. The official organ of the L. P. in Great Britain is the *Daily Citizen* (*q.v.*), and its office 28 Victoria Street, London, S.W.

Labrador, a peninsula in the most easterly part of the N. American continent, situated between Hudson Bay and the Gulf of St. Lawrence. Its greatest length is 1100 m., and its breadth 470 m.; area 120,000 sq. m. The interior has not yet been fully explored. A high plateau, rising to an elevation of some 2000 ft., descends along the Hudson Bay coast to 500 ft. There are many long rivers, the greatest of which is the Hamilton, which at the Grand Falls has a magnificent drop of over 300 ft. Other rivers are the Koksoak, Whale, and Payne r Bay; and tl and Rupert. The rivers are connected by large sheets of water, which include lakes Mistassini, Clearwater, and Kaninpiskan. The coast is rocky, broken up with narrow inlets, and fringed with numerous small islands. Valuable fish, such as salmon, cod, trout, etc., is caught, and the wild animals, bears, foxes, beavers, and martens, are hunted for their fur. The climate is rigorous on the northern coasts, but temperate in the S.

L. was probably visited by the Norsemen in the 11th century. It may have been sighted by John Cabot in 1498, but it is unlikely that he visited its coasts. Cortereal, a Portuguese navigator, visited the country and gave it its present name, derived from Portuguese *llavrador*, a yeoman farmer. The peninsula was ceded to Great Britain in 1763 by the Treaty of Paris. It is now divided politically between Canada, the province of Quebec, and Newfoundland. The region by the Atlantic is a dependency of Newfoundland, and is separated from Canadian territory by a boundary line running N. and S. from Anse Sablon. The territory of Ungava, in Labrador Peninsula (355,000 sq. m.), is now absorbed in Quebec. There are no important towns in L., but there are Moravian mission stations at Okkak, Nain, Hopedale, and Ramah. The population, which is made up of Indians, Eskimos, and some whites, is estimated at 14,500.

Labradorite, a soda-lime felspar of the plagioclase group, mostly bluish and greenish in colour, abundant in St. Paul's Is., Labrador. Used in jewellery.

Labrax, the generic name of certain species of fishes belonging to the teleostean family Serranidæ, or sea-bass; it is synonymous with *Morone*, and is found in the Mediterranean and Atlantic oceans.

La Bruyère, Jean de (1645-96), a French essayist and moralist, born at Paris, his father being controller-general of finance to the Hôtel de Ville. He was educated at the University of Orleans and called to the bar in 1673. He abandoned this for a post in the Revenue Department at Caen, which he sold in 1686. He was then introduced by Bossuet to the household of the great Condé, to whose grandson, Henri Jules de Bourbon, he became tutor, and passed the remainder of his life in the household of the prince or at court. The first edition of his *Caractères* appeared in 1688, and from the fourth to the ninth edition he augmented and improved this work. His work deserves a high place in French literature, and he excels in bringing out individual and picturesque traits of the innumerable persons portrayed in his *Caractères*. Corneille, Fontenelle, and Benserade figure amongst them, together with other men and women of letters and of society. *See* Fournier, *La Comédie de la Bruyère*.

Labuan, an island off the N.W. coast of Borneo, with an area of 30 sq. m. From 1890 to 1906 it was under the government of the British

North Borneo Company; it was then annexed to the Straits Settlements. It has a fine harbour which affords good anchorage for ships, and possesses extensive coal beds and a railway. It is flat and thickly wooded, and possesses a good supply of water. L. is an active market for the products of the neighbouring islands of Borneo and the Sulu Archipelago—edible birds'-nests, camphor, india-rubber, wax, sago, hides, etc. The chief product is sago-flour. The island is connected with Singapore by submarine cable. Capital, Victoria. Pop. 9000, mostly Malays.

Laburnum, a genus of leguminous plants, contains only three species; they are natives of Europe and Asia and one is common in British shrubberies. This is *L. vulgare*, which is noted for its pendulous racemes of beautiful yellow papilionaceous flowers, and in all its parts it is highly poisonous.

Labyrinth (Lat. *labyrinthus*), a term applied by the Greeks and Romans to buildings, chiefly subterranean, containing intricate chambers and passages difficult of egress. The most celebrated were the Egyptian, Cretan, and Samian, the first containing 3000 chambers and reckoned as one of the wonders of the world. A description of this is given by Herodotus and Strabo. It was built on the shore of Lake Mœris, was the work of Amenemhat III. (2300 B.C.), and was discovered by the Egyptologist Lepsius. It was probably intended for sepulchral purposes. The Cretan L., even more famous, is said to have been the work of Dædalus, King of Minos. Similar in construction were the Samian and the Italian, the latter forming the tomb of Lars Porsena of Clusium. Modern Ls. or mazes in gardening are imitations of the Cretan, the celebrated maze at Hampton Court being the best known.

Lac, or **Lakh**, derived from a Sanskrit word *laksha*, meaning 'one hundred thousand.' Generally used in India to signify 100,000 rupees, the nominal value of which is £10,000; the real value £6666 or $33,330.

Lacaille, Nicholas Louis (1713-62), a French astronomer, was born at Rumigny in the Ardennes. Studied theology, and after taking deacon's orders devoted himself to science. In 1739 remeasured the French arc of the meridian, an operation lasting two years, and was successful in obtri
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expedition to the Cape of Good Hope, which was highly successful, and resulted in his *Cœlum Australe Stelliferum*. He also wrote *Astronomiæ Fundamenta; Tabulæ Solares*, etc. *See* R. Wolf, *Geschichte der Astronomie*.

La Calprenède, Gautier de Costes, Seigneur de (1610-63), a French novelist and dramatist, born at the Château of Tolgon, near Cahors, Dordogue, prominent among French writers of the 17th century. Author of several long romances, viz.: *Cassandre; Cléopâtre; Les Nouvelles; Faramond*; and several plays after the style of Corneille, including *Bradamante, Jeanne d'Angleterre*, and *Le Comte d'Essex*, etc. *See* Korting, *Geschichte des französischen Romans in*

the more inaccessible region in the Peten district of Guatemala. They speak a dialect of the standard Maya of Yucatan. Until 1750 they were hostile to the whites, and even now, as far as possible, avoid contact with them. Though under Spanish power, they retain a certain amount of independence, and follow many of their ancient customs and religious rites. *See* Brinton's *The American Race*, 1901.

La Carlota: 1. A tn. in the prov. of Cordova, Spain, 16 m. S.S.W. of the town of Cordova, with manufs. of linen. Pop. 6000. 2. Or Simancas, a tn. in the prov. of Negros Occidental, Philippine Is., 18 m. S. of Bacolod. Pop. 14,000.

Laccadive Islands, a group of fourteen low coral islands in the Indian Ocean (nine inhabited), 200 m. W. of the Malabar coast. A coral reef extends round each of the islands and forms a lagoon where *coir* (cocoa-nut fibre), the staple product, is soaked. Other products are coco and betel nuts, sweet potatoes, and rice. Vasco da Gama discovered the group in 1499. Area (estimated) 80 sq. m. The inhabitants are chiefly Mohammedans and number about 10,500.

Laccolith, or **Laccolite**, an intrusion of igneous rock between two strata. The characteristic shape is that of a plano-convex lens, being flat underneath and arched above. Laccolites were probably formed by intrusion of molten rock of a fair degree of viscosity, with sufficient internal pressure to cause arching of the superincumbent strata.

Lace, an ornamental textile fabric with an open-work pattern produced by means of flax, cotton, silk, silver, or gold threads. There are three distinct varieties of L., 'needle-

point,' ' pillow,' and ' machine lace,' the last made by steam-driven machinery in imitation of the former two.

Needlepoint or point L. dates from the 16th century. L. is mentioned in early English documents prior to that date, but it was probably cord or braid twisted and plaited together and used as a strap or tie. Point L., made by the needle, is associated with Venice, where the earliest point L. (*punto in aria*) was made. The design was drawn on parchment, which was then stitched to a piece of fine, strong linen. The main lines of the design were stitched through on to the linen and afterwards the pattern was darned over, or sewn in with buttonhole stitches and finally the parchment cut away. The designs used in this kind of L. was generally stiff and geometrical in form. ' Rose ' (raised) point L. (*gros point de Venise*) dates as far back as 1640, and was done in relief. The main pattern was held together by *brides* or tyes, while solid knots, stars, or flowers were worked into the design. This kind of L. was used principally for altar cloths, ecclesiastical vestments, and jabots. The art of making point L. spread through Italy into France, where Alençon became the chief centre of lace-making (*see* Despierres' *Histoire du point d'Alençon*, 1886). One of the earliest pattern-books was published in 1527 by Pierre Quintz of Cologne, under the title *New and Subtle Book Concerning the Art and Science of Embroidery, Fringes, Tapestry-Making, as well as other Crafts done with the Needle.* The *point de France* was first produced in imitation of the Venetian designs, but later distinctive patterns came to be used in France and Flanders. Point L. was also made at Brussels, its distinctive feature being that the flower or star ornament was made separately and sewn on to the *réseau* or groundwork.

Pillow L. is made by hand with bobbins on a pillow. It is supposed to have been invented by Barbara Uttmann of Saint Annaberg, Saxony, in the mid 16th century, but it must have been known in Flanders by the end of the 15th century according to a picture painted in 1495 by Quentin Matsys. The parchment on which the pattern has been drawn is fixed on to a pillow or cushion in which pins are stuck at regular intervals. The various threads required are wound round several bobbins; as many as 1000 bobbins may be employed at a time in the more elaborate patterns. The work is done by means of twisting and plaiting the threads. Much of the modern pillow L. has a machine-made background, instead of the former pillow-meshes made by twisted bobbin net. The flower embroidery worked on the net gives the effect of woven cloth.

Machine-made L. dates from 1768, with the manufacture in Nottingham of net or tulle, which could be used as a background for pillow L. The frame first used was a modification of the hosiery frame invented by William Lee towards the latter part of the 16th century. The net made on this frame consisted of a single thread, and unravelled very quickly, but before long a warp-L. machine was invented, by which the loops could be finished off by separate threads, thus making the whole fabric firmer and stronger. In 1810 John Heathcote made improvements in the bobbin-net machine, which was further developed by John Levers in 1813. In 1837 Jacquard's pattern-weaving apparatus made it possible to work designs by machinery on to the net or tulle. Since that date there have been numerous minor inventions in lace-machinery, so that the various patterns of point and pillow L. may be so closely imitated that often it requires an expert to distinguish it from what is known as ' real ' L.

See Lefébure, *Embroidery and Lace* (Eng. trans. by Cole), 1888; Cole, *Ancient Needle-Point and Pillow Lace*, 1875, and *Canta Lectures on the Art of Lace-Making*, 1881; Doumert, *La Dentelle*, 1889; Mincoff and Marriage, *Pillow Lace*, 1908; Mrs. Bury Palliser, *History of Lace* (new ed.), 1900; and Felkin, *History of the Machine-wrought Hosiery and Lace Manufactures*, 1867.

Lace Coral, *see* POLYZOA.

Lacedæmon, *see* SPARTA.

Lacépède, Bernard Germain Etienne de Laville, Comte de (1756-1825), a French naturalist born at Agen. From his early youth he showed a great love of natural history, to which he devoted himself in lieu of the military profession for which he was destined. In 1785 he was appointed curator of natural history in the Royal Gardens at Paris, and later held the position of professor in the Jarden des Plantes and at the university. At the outbreak of the Revolution, he retired to his country seat, but under the Directory became one of the first members of the institution, Napoleon conferring upon him the dignity of Grand Chancellor of the Legion of Honour. He wrote: *Histoire Naturelle des Poissons; Les Ages de la Nature;* and continued Buffon's *Natural History*. L. was also an accomplished musician, and published *Poétique de la Musique*, 1785.

Lacerta (the Lizard), a small constellation first mentioned by Hevelius in his *Prodromus Astronomiæ*, 1690. Its brightest star is of the fourth magnitude. Bounded by Cygnus, Andromede, Cepheus, and Pegasus.

Lacertidæ, *see* LIZARD.

Lacewing Flies have large gauze wings, golden eyes, and slender bodies. The female attaches her eggs to plant stems by hair-like threads. From these hatch voracious larvæ which live entirely on green flies (aphides) and are therefore gardeners' friends.

Lachaise, François d'Aix de (1624-1709), a Jesuit priest, father confessor of Louis XIV., born at Aix in Forey. L. had the reputation of a man of broad views and upright character, and always avoided extreme courses. Was a friend of Fénelon, fond of antiquarian pursuits, and a man of some learning, and founded the College of Clermont. On the property acquired by his order in 1826, stands the cemetery of Père Lachaise in Paris, called after him. *See* R. Chantelauze, *Le Père de Lachaise*.

La Chaussée, Pierre Claude Nivelle de (1692-1754), a French dramatist, born at Paris, and the originator of modern French drama. Produced his first play, *La Fausse Antipathie*, in 1734, followed in 1735 by *Le Préjugé à la Mode*, and in 1737 by *L'Ecole des Amis*. He also wrote: *Mélanide, L'Ecole des Mères; La Gouvernante; L'Ecole de la Jeunesse*, and several *Contes* in verse. In his plays L[illegible] combined the tragedy of com[illegible] life and pathetic comedy, a[illegible] named *comedie larmoyante*, [illegible] Voltaire maintained that this pointed to the fact that La C. was unable to write either of the recog[illegible] of drama. *See* G. Lanson *La Chaussée et la Comédie*

Laches (Fr. *lâche*, ren[illegible] Lat. *laxus*, loose, slow), in equity (*q.v.*), denotes such delay on the part of a plaintiff in seeking his remedy as will bar his claim to relief; for it is a maxim in equity that 'delay defeats equity.' Although analogous to the various statutory terms the lapse of which by the Statutes of Limitations (*q.v.*) extinguishes rights or operates indirectly to transfer them to others, no precise period is necessary to amount to L. All that the equitable doctrine reprehends is unreasonable delay in the circumstances of the case, whereas rights may be barred under the Statutes of Limitations (*q.v.*) irrespective of the knowledge or means of knowledge of the circumstances of the person whose right is barred. It is not always easy from the decided cases to infer the basis of the maxim, but generally speaking the man who 'sleeps on his rights' is taken to have acquiesced, actually or constructively, in what he subsequently seeks to complain of. Hence fraud, whether on the part of the defendant or any one else, by which the plaintiff is rendered ignorant of his rights, will not, however long a time has elapsed, prevent the plaintiff from obtaining relief in equity; and this is also the case where the Statutes of Limitations apply. But another principle upon which the courts have acted is that he who delays ought not to be given a remedy when through his neglect or implied waiver of his rights other and innocent persons have acquired rights which, if disturbed, will result in such other persons being placed in an unfair or unreasonable position.

Lachesis, *see* MOIRÆ.

Lachine, a tn. of Jacques Cartier co., Quebec, Canada, on Lake St. Louis and the Grand Trunk and Canadian Pacific railways, 7 m. S.W. by S. of Montreal, and a favourite summer residence. It has large tannery, brewery, and pickle factories. There is a canal hence to Montreal (9 m.), circumventing the Lachine Rapids of the St. Lawrence, through which all the water commerce between Montreal and the West passes. This canal has five locks and a rise of 45 ft. Pop. 10,699.

Lachish (Heb. *Lākīsh*), a city of Judah, situated between Gaza and Eleutheropolis, and one of the capitals [illegible] B.C. it was [illegible] during his [illegible] was to L. [illegible] Judah sent messengers with gifts, hoping thus to prevail upon Sennacherib to spare [illegible] L. is mentioned also [illegible] cities resettled by the [illegible]n their return from the captivity. The town is now deserted, but is represented by the stone heaps of Tel-el-Hesy. Excavations have disclosed eight cities built one above the other. *See* Petrie's *Tel-el-Hesy*, and Bliss's *A Mound of Many Cities*.

Lachlan, a riv. of New South Wales, rising in King's co. and joining the Murrumbidgee, a trib. of the Murray. Extensive marshes are found at the latter part of its course, and in the rainy season it is navigable for a considerable distance by small steamers. It is 700 m. long.

Lachmann, Karl Konrad Friedrich Wilhelm (1793-1851), a German philologist and critic, born at Brunswick. Studied at Leipzig and Göttingen. In 1808 he became professor of classical philology at Königsberg University, at the same time begin-

ning to lecture on the Middle High German poets, devoting the seven years following to the study of this subject. In 1825 he was appointed extraordinary professor of classical and German philology at Berlin University, and ordinary professor in 1827. He published *Betrachtungen über Homer's Ilias;* edited Catullus, Tibullus, Lucilius, Lucretius, etc.; and translated Shakespeare's *Sonnets* and *Macbeth.* See M. Hertz, *Karl Lachmann, eine Biographie;* J. Grimm in *Kleine Schriften;* J. E. Sandys, *History of Classical Scholarship,* 1908.

Lachute, a banking tn. in Quebec, Canada, cap. of Argenteuil co., 40 m. W.N.W. of Montreal. Exports dairy produce. Pop. 2407.

Lacinium, a promontory on the S. coast of Italy, 6 m. S. of Crotona; a bold and rocky headland, forming the termination of one of the offshoots of the Apennines. In ancient times it was crowned by the temple of the Lacinian Juno, the ruins of which have given name to its modern appellation, Capo delle Colonne.

Lackawanna: 1. A riv. in Pennsylvania, U.S.A., rising in the N.E. of the state and entering the Susquehanna R. at Pittston. Scranton and Carboudale are the chief towns on its banks, and rich mines of anthracite occur in the valley. 2. A city of Erie co., New York, U.S.A., on the Lackawanna R. Pop. (1910) 14,549.

La Condamine, Charles Marie de (1701-74), a French geographer, born in Paris. First served in the army, and then studied science and exploration. In 1731 took part in an expedition in the Levant, exploring the coasts of Africa and Asia, and making collections. In 1735, with Godin and Bouguer, he formed one of an expedition sent to Peru to measure the length of a degree of the meridian in the equa- and show more of the earth. *rnal du Voyage l'équateur.*

Laconia: 1. A U.S.A., cap. Winnepesauke Concord. Mt. It has extensive manufactures of machinery, railroad cars, blinds, yarn, hosiery, woollen goods, etc. Pop. (1910) 10,183. 2. in the S.E. part of *See* SPARTA.

Lacordaire, Jean Baptiste Henri Dominique (1802-61), a French preacher, born at Rac Côte-d'Or. He studied l at Dijon, where he himself by his rhetoric, and afterwards became famous as an advocate in Paris; but in 1823, having read Lamennais's *Essai sur l'Indifférence,* was converted to Roman Catholicism and entered the seminary of Saint Sulpice. He was ordained priest in 1827 and chaplain to a convent and to the College Henri IV. He assisted Lamennais in the editorship of *L'Avenir,* and opened an independent free school in 1830 with Montalembert, which only existed for two days. After this had been closed and *L'Avenir* condemned, he began his Christian 'conferences' at the Collège Stanislas (1834), which paved the way for his delightful sermons delivered at Notre Dame (1835-36). In 1838 he set out for Rome, where he joined the monastery of Nunciva, assuming the name Dominique, and prepared his *Mémoire pour le rétablissement en France de l'ordre des Frères Prêcheurs,* and collected materials for his *Life of St. Dominic.* In 1841 he returned to France and continued (1843-51) his conferences at Notre Dame, his funeral orations being especially famous, but his best were his last, delivered at Toulouse in 1854, *i.e.* a series on the Christian life. In 1860 he was elected a member of the Academy, succeeding De Tocqueville. His principal works are: *Considérations sur le Système Philosophique de M. de Lamennais,* 1834; *Mémoire pour le rétablissement en France de l'ordre des Frères Prêcheurs,* 1839; *Vie de Saint Dominique,* 1841; *Conférences de Nôtre Dame de Paris,* 1835-51; *Conférences de Toulouse,* 1854. See *Life* by Montalembert, 1862 (Eng. trans. 1863).

Lacquer and Lacquering. Lacquer is a composition which is used for the preservation of metals, the ingredients of which vary considerably. Two coats are generally put on, especially in the case of metals like brass. But the art of lacquering practised by the Japanese is very different. Their famous 'lacquer-ware' consists of wood which is coated with the juice of the lacquer-tree, *Rhus vernicifera.* This varnish makes the surface very [illegible], and differs from other varnishes is respect, that it can endure There are various kinds of er-ware, the best being prepared by a very tedious process, owing to the number of coats it receives.

Lacretelle, Jean Charles Dominique [illegible]-1855), a French politician orian, born at Metz; was to Paris at the outbreak of the Revolution in 1789 and became secretary to the Duke of Roche- He helped to nd the *Journal de* e was made professor of history in the Paris Faculty of Letters; in 1810 censor of the Press; in 1811 a member of the French Academy, and in 1816 its president.

His works include: *Précis Historique de la Révol... France pen... 1808*; and *... les Guerres ...*

Lacretelle, Pierre Louise de (1751-1824), a jurist and journalist, elder brother of Jean Charles, born at Metz and became an avocat in Paris. He wrote on law and philosophy, and became known to Turgot and Malesherbes. In 1786 he gained the Montyon prize for a *Discours sur le préjugé des peines infames*, Robespierre taking second prize. He died in Paris. His *Œuvres Diverses; Mélanges de Philosophie et de Littérature* were published in 1802-7.

Lacroix, Paul (1806-84), a French author, born in Paris. He was a prolific writer, producing romances, plays, histories, and biographies, as well as various books on the arts and sciences of France, one of his chief works being *Le Moyen Âge et la Renaissance* (produced 1847, with Séré), a book on the manners, customs, and dress of those times. He also published two elaborate works on the *History of Prostitution*, as well as *Histoire du XVIe Siècle en France; Histoire politique, anecdotique et populaire de Napoléon III.* He is best known as 'P. L. Jacob, Bibliophile,' a name suggested by his constant interest in libraries. In 1855 he was keeper of the Arsenal Library.

Lacroix, Silvestre François (1765-1843), a mathematician, born in Paris. He filled several important posts, among which may be mentioned that of professor of mathematics at the Collège de France (1815). He wrote many books on mathematics, but is specially famous for his works on the calculus. His publications include: *Traité du calcul différentiel et du calcul intégral; Traité élémentaire du calcul des probabilités; Eléments de géométrie; Traité des différences et des séries.*

Lacroma, a small island in the Adriatic, belonging to Dalmatia, Austria, and noted for its rich vegetation, monastery, and chateau.

La Crosse, cap. of La Crosse co., Wisconsin, U.S.A., on the Mississippi R. near the mouths of the La Crosse and Black rivers, 130 m. S.E. of St. Paul. It is an important shipping point in the grain and lumber trades, and has very large lumber mills. There are manufs. of machinery and tools, breweries, and cooperages. Pop. (1910) 30,417.

Lacrosse, the national ball game of Canada, derives its name from the resemblance of the curved netted stick, with which the game is played, to a bishop's crozier. The game has its origin in a similar pastime of the N. American Indians, in which whole tribes used to take part. In 1867 Governor Beers suggested the adoption of L. as the national game of Canada, and the National Lacrosse Association of Canada was formed; since then the game has flourished greatly in Canada and to a less extent in the United States. The English Lacrosse Association was formed in 1868, but the game was very little played in England until 1902. In that year the Toronto Lacrosse Club sent a team over to play the representative clubs of England and Ireland. The club's visit, and that of the capital of Ottawa in 1907, have done a great deal to popularise the game. Matches between the N. and S. of England have been played since 1882, a county championship was started in 1905, England played Ireland for the first time in 1881, and inter-varsity matches were instituted in 1903. The object of the game is the same as that of football and hockey, to score goals. The goals must be at least 100 and not more than 150 yds. apart; they are 6 ft. by 6 ft., and are set up in the middle of the goal crease, a space of 12 yds. square marked out with chalk. A net is drawn from the top rail and sides of the goal posts to a point 6 yds. behind the middle of the line between the posts. The side boundaries are agreed on by the captains. No spikes may be worn on the shoes. The ball is made of india-rubber sponge, and must weigh between 4¼ and 4½ oz., and be between 8 and 8¼ in. in circumference. The 'crosse' is a light staff of hickory wood, with the top bent in the form of a hook, from the tip of which a thong is drawn down and fastened to the shaft about 2 ft. from the handle. It may be of any length but must not be broader than 1 ft. in any part, and no metal may be used in its manufacture. A team consists of twelve players—a goalkeeper, point, cover-point, three defence fields, a centre, three home fields, an outside home, and an inside home. Each player, save the goalkeepers, is directly marked by an opponent. The game is opened by the two opposing centres 'facing' the ball. Each centre stands with his left shoulder to his opponent's goal and his crosse held wood downwards on the ground; at a given signal each tries to get the ball. No player may handle the ball save the goal-keeper, and he only when saving a shot. For a foul the player is either suspended until a goal is scored or the termination of the game, or a 'free position' (a free kick at football) is given. No charging is allowed, but a player may stand in front of an opponent without

touching him. If the ball crosses the boundary line it is 'faced' by the two nearest players, the rest remaining where they were. There is no 'offside' rule. The ball is carried on the crosse with a peculiar rocking motion only learnt by practice. *See* Sachsetal, *Lacrosse and Hockey*, 1909.

Lacrymæ Christi (Lat. 'tears of Christ'), a sweet muscatel wine made from the grapes of Mt. Somma, near Vesuvius, and so called from a neighbouring monastery. There is a white and red variety, the former being the better.

Lactantius, Lucius Cælius, or Cæcilius Firmianus Lactantius (c. 250-330), a writer and teacher of Latin eloquence, was probably a native of Italy, but studied in Africa. About 301 he settled at Nicomedia at the [illegible] about Gaul to Crispus, to this he had become a convert to Christianity. His chief work is *Divinarum Institutionum Libri VII.*, the seven books being 'De Falsa Religione,' 'De Origine Erroris,' 'De Falsa Sapientia,' 'De Vera Sapientia et Religione,' 'De Justitia,' 'De Vero Cultu,' and 'De Vita Beata.' Other works of his are: *De Mortibus Persecutorum*, an account of the persecutions from Nero to Diocletian; *De Ira Dei*; and *De Opificio Dei sive De Formatione Hominis*. There is a translation by Fletcher in Ante-Nicene Fathers, vii.

Lacteal, any one of the lymphatic vessels that take up the chyle absorbed from the mucous membrane of the intestines and carry it to the thoracic duct. Chyle, the product of fat-digestion, has a milky-white appearance, and this appearance is communicated to these vessels when full, hence the name.

Lactic Acid, molecular formula $C_3H_6O_3$, an organic acid occurring in sour milk. The names ethylidene-lactic acid and ethylenelactic acid are sometimes applied to the isomerides α-hydroxypropionic acid and β-hydroxypropionic acid respectively. The former, whose structural formula is $CH_3.CH(OH).COOH$, is the one formed by lactic fermentation of sugars, starch, etc., and is more particular [illegible] L. A.; the [illegible] OH is not f [illegible] mentation, but behaves in many respects like L. A.; it is otherwise known as hydracrilic acid. There are still two more isomerides of formula $C_3H_6O_3$: sarcolactic acid, which occurs in extract of meat, and an acid of similar constitution formed in the lactic fermentation of cane-sugar: these are only to be distinguished by their optical properties. L. C. is a sour, syrupy liquid, miscible with water and alcohol in all proportions. It cannot be distilled as it decomposes at a moderately high temperature. It forms metallic salts, which are known as lactates.

Lactic Acid Therapy, a system of treating intestinal disorders and general weakness by the administration of sour milk, or of preparations containing lactic acid. The sour milk theory owes its popularity to the writings of Elie Metchnikoff of the Pasteur Institute at Paris. Many digestive troubles are due to the action of bacteria in causing putrefaction within the intestines, thus giving rise to changes which in the main are detrimental to health, though some of them undoubtedly assist the absorption of food material. Metchnikoff proposed to fight the noxious bacilli with other bacilli whose action is conducive to good health. The precise manner in which the lactic bacillus or its products aids digestion is still a matter of doubt, and it may be said that the treatment cannot be unreserved [illegible] cases. T [illegible] among pec [illegible] an everyd [illegible] testimony [illegible] experimen [illegible] have brou [illegible] into good repute. Many preparations are now produced from soured skim milk under various trade names as Fermillac, Heltho, Vitalc, Bacillac, Zoulak, etc. The bacteria concerned are *bacterium lacticum* and *bacillus bulgaricus*; they are usually obtained from pure cultures, and are introduced into the skim milk when it has cooled after boiling. The souring is then allowed to go on until the casein in the milk is on the point of coagulation. These products are usually palatable and have a food value distinct from their curative properties. If the treatment does not cause amelioration of the distressing symptoms, it should not be persevered [illegible]

Lactometer, or Galactometer, a contrivance for ascertaining the richness of milk. It generally consists of a graduated glass tube, the number of divisions, as a rule, being 100. This tube is filled with milk to the top of the graduated part, and the liquid is then allowed to stand so that the cream may separate. After a time it may be seen how many parts in a hundred the cream occupies.

Lactose, or *Milk-sugar* ($C_{12}H_{22}O_{11}$), a sugar found in the milk of all mammals to the extent of about 4 per cent. It may be prepared by separating the casein of milk with rennet, and evaporating the remainder; crystals of lactose are formed and may be purified by recrystallising from water. L. is not so sweet as cane-sugar, but is much more easily digested by infants, so that cow's milk adapted for use in babies' feeding bottles is commonly sweetened with it.

Lacy, Peter, Count (1678-1751), a Russian field-marshal, born in Limerick. He entered the Russian service in 1697, and being presented to the Czar, Peter the Great, was appointed by him captain in an infantry regiment. He was frequently engaged against the Danes, Swedes, and Turks in 1709-21, and in 1725 was appointed commander-in-chief in St. Petersburg, Ingria, and Novgorod. He took part in the war for the establishment of Augustus of Saxony on the throne of Poland (1733-35), and was made field-marshal (1736). The same year he succeeded in reducing Azof, then in the hands of the Turks, and in 1741, being appointed to command against the Swedes in Finland, seized the important Swedish post of Wilmanstränd. L. has been called the 'Prince Eugene of Muscovy.' He did much to reform the Russian army.

Ladákh, a mountainous prov. in the valley of the Upper Indus lying about 13,000 ft. above sea-level. It now forms part of Kashmir, but was originally a division of the Tibetan empire. The capital is Leh. The chief river is the Indus. There are valuable gold mines, and iron, salt, and sulphur are also found. Pop. 30,000.

Ladas: 1. A famous Greek runner, native of Laconia, who gained the victory at Olympia in the δόλιχος (long course of twenty *stades*). A monument was put up to his memory on the banks of the Eurotas, and there was also a fine statue of him by Myron (c. 430 B.C.) in the temple of Apollo Lycius at Argos. 2. A native of Ægium in Achaia, who gained a victory in the foot race at Olympia in 280 B.C.

Ladd, George Trumbull (*b.* 1848), an American philosopher, born at Painesville, Ohio. He studied at Western Reserve College and Andover Theological Seminary, and from 1871-79 was pastor of Spring Street Congregational Church, Milwaukee. He held the chair of philosophy in Bowdoin College in 1879, and from 1881-1901 was Clark professor of metaphysics and moral philosophy at Yale, becoming professor emeritus in 1905. He lectured at Andover Theological Seminary, at Harvard as well as in Japan, and at the universities of India, 1906-7. L. has contributed largely to the science of psychology, and was one of the first to introduce experimental psychology into America. Some of his works are: *Primer of Psychology*, 1894; *Psychology, Descriptive and Explanatory*, 1894; *Philosophy of the Mind*, 1891; *A Theory of Reality*, 1899; *Philosophy of Religion*, 1905; *Knowledge, Life, and Reality*, 1909.

Lade, an ancient island off the W. coast of Caria, Asia Minor. Formerly protected the harbour of Miletus, but owing to silting by the R. Meander, is now a hill some miles from the coast. Scene of two battles, 494 B.C. and 201 B.C.

Ladin, a Romance dialect, found in its purest form in the Grisons, Switzerland, particularly in the Engadine [illegible] lleys. It took ' lingua rustica empire. It has little literature, but among the writers in it have been Johann von Travers, Conrad von Flugi, and S. F. Caderes. An excellent Ladin dictionary by Zaccaria Pallioppi appeared in 1895.

Lading, Bill of, *see* BILL OF LADING.

Lado, a tn. of Eastern Sudan, in the Bari country, on l. b. of White Nile, just below Gondokoro. It was founded by General Gordon in 1875. Altitude 1525 ft.

Lado Enclave, a region of the Upper Nile, bounded by the Albert Nyanza on the S.E., the Nile on the E., parallel 5° 30′ N. on the N., and meridian 30° E. and the Nile-Congo watershed on the W. Originally administered by the Congo Free State, but since 1910 by the Anglo-Egyptian Sudan. Named from Mt. Jebel Lado (2500 ft.). Area 15,000 sq. m. Pop. 250,000.

Ladoga, Lake, the largest lake in Europe, situated in N.W. Russia, in lat. 59° 56′ to 61° 46′ N. long. 29° 53′ to 32° 50′ E., bordering upon Finland. Area 7000 sq. m. The shores are generally low but rocky in the N.W. and are fringed by numerous small islands. It receives about seventy rivers, of which the chief are the Volkhov, Svir, Wuoxen, Taipala, and Syas, and its outlet is by way of the Neva into the Gulf of Finland. The depth is very unequal, the average being 300 ft. and the maximum (in the N.) over 700 ft. There are numerous rocks and quicksands, and the lake is subject to violent storms which render navigation dangerous. It is frozen for about half the year. There is a chain of navigable canals round the S. and S.E. sides. Chief towns on shore are Novaya-Ladoga and Kexholm.

Ladrones, or Marianne Islands, a group of islands in the Pacific Ocean, which, with the exception of Guam, belong to Germany. They are fifteen in number, ten of which are of volcanic origin, and of these only four are inhabited, while the other five are coralline limestone islands. All of them are densely wooded and the vegetation is luxuriant, the chief productions being cocoanut and areca palms, yams, manioc, coffee, cocoa, sugar, cotton, and tobacco. The islands were discovered by Magellan in 1521, and called Islas de los Ladrones 'by his crew on account of the thieving propensity of the inhabitants. The seat of government is on the island of Saipan. They were originally the property of Spain, but were sold to Germany in 1899. Area (excluding Guam) 200 sq. m. Pop. 12,000. Capital, Agana.

Lady, a term used as the feminine [illegible] nfined 'lord.' [illegible] 's and the daughters of dukes, earls, and marquises, who are designated by the title L. prefixed to their Christian name. The wives of baronets and knights are also called L., but the title is prefixed to the surname only.

Ladybank, a par. and tn. of Fifeshire, Scotland, 5 m. S.W. of Cupar. It is an important railway junction, and a picturesque summer resort. There are malting works and linen manufs. Pop. (1911) with Monkston, 1340.

Ladybird, the popular name of the numerous species of polymorphous Coleoptera belonging to the family Coccinellidæ, and remarkable for their beautiful variety of colouring. Their chief characteristic is the curious formation of the tarsi, of which only three of the four segments are visible, the third being sunk in the second; the antennæ are short and slightly clubbed, and the head is largely concealed by the thorax. There are 2000 species, generally of a bright red or yellow colour, with black or coloured spots.

Ladybrand, a tn. of S. Africa in the Orange Free State. Its climate is extremely bracing, and on this account it is much frequented as a health resort. Petroleum and coal are obtained in the vicinity. Pop. 4000.

Lady Chapel, a chapel dedicated to the Virgin Mary, usually an elongation of the choir, built eastward of the high altar and projecting from the main building.

Lady Day (March 25), the day [illegible] the festival of the Annunciation [illegible] the Blessed Virgin Mary. It is one [illegible] the four English quarter days.

Lady-Fern, or *Asplenium Filix-fœmina*, a species of Polypodiaceæ frequently found in Great Britain and has several beautiful varieties, such as *clarissima*. The plant is an exceedingly graceful fern of light green colour, and delicate texture.

Lady Margaret Hall, a hall of residence at Oxford for women students. It was founded in 1878 according to the principles of the Church of England, but with full religious liberty for the members of other denominations. All intending students must pass an entrance examination, 'Responsions,' and undertake, as a rule, to read for an honours degree. Women students are admitted to all the examinations of the University of Oxford except those in medicine, and are allowed to attend nearly all the university lectures, but they are not granted degrees.

Lady's Mantle, *see* ALCHEMILLA.

Ladysmith, a tn. in Natal, S. Africa, on the Klip river, 80 m. N.N.W. of Pietermaritzburg. It was founded in 1851 and owes its growth to the opening of the railway from Durban in 1886 and the extension of the line to [illegible] ow the trading [illegible] part of Natal, [illegible] junction in the province. It was the centre of the struggle at the beginning of the South African War (1899-1902). Pop. 5690.

Laeken, a tn. of Brabant prov., Belgium, 2 m. N.W. of Brussels, of which it forms a suburb. Laeken Castle, the summer residence of the Belgian royal family, stands on a hill. There is a Jardin Colonial, and the suburb has a noted carpet-making industry. Pop. 30,438.

Lælia, a genus of Orchidaceæ, is closely allied to the genus *Cattleya*. There are in all twenty species, all of which occur wild in tropical America, and many of which are epiphytes. The leaves are fleshy and the flowers very beautiful, for which reason they are often cultivated in Britain. *L. anceps* is a well-known species bearing lilac-coloured flowers.

Laënnec, René Théophile Hyacinthe (1781-1826), a French doctor, born at Quimper in Brittany. He is famous as the inventor of the stethoscope, as well as for his numerous writings, among which may be mentioned: *Traité del'* [illegible] which ma[illegible] time of its [illegible] languages; *de poitrine*; *fièvres inter-* [illegible] the *Journal* [illegible] s principal [illegible] Necker for [illegible] the chair of [illegible] le France in

1822, and was a member of the Royal Academy of Medicine.

Laer, Pieter van, *see* BAMBOCCIO.

Laertes: 1. In ancient Greek legend, King of Ithaca and father of Odysseus. He was the son of Acrisius and Chalcomedusa and husband of Anticleia. In his youth he conquered Nericum and took part in the Calydonian hunt and the expedition of the Argonauts. While Odysseus was at Troy he lived in rustic retirement, but after his return was made young again by Athena. 2. A character in Shakespeare's *Hamlet*.

Laërtius, Diogenes, *see* DIOGENES LAËRTIUS.

Laetare Sunday, *see* GOLDEN ROSE.

Lævulose, *see* SUGAR.

Lafarge, John (1835-1910), a landscape and ecclesiastical painter, born at New York. He began by making illustrations to the poets in 1859, but ultimately turned his attention to stained glass, becoming president of the Society of Mural Painters. He executed the 'Battle Window' at Harvard University, besides windows for various churches in New York, but he also exhibited some water-colour sketches in 1895. He wrote: *Considerations on Painting*, 1895; and *An Artist's Letters from Japan*, 1897.

La Farina, Giuseppe (1815-63), an Italian historian, born at Messina. He was obliged to leave Sicily in 1837, but returned in 1839 and conducted several Liberal newspapers, ultimately removing to Florence. Here he established, in 1847, *L'Alba*, a democratic journal, advocating Italian freedom and unity, but went back to Sicily on the outbreak of the revolution [illegible] exiled in 1849. In 1850 he [illegible] *cumentata dell'* [illegible] *del* 1848-49, and from 1851-55 *Storia d'Italia dal* 1815 *al* 1848 (6 vols.). Other works of his are: *La Germania coi suoi monumenti*, 1842; *L'Italia coi suoi monumenti*, 1842.

Lafayette, the cap. of Tippecanoe co., Indiana, U.S.A., on the Wabash R., 58 m. N.W. of Indianapolis. It stands on rising ground at the head of navigation on the river. There are manufactures of farm implements, machinery, carpets, etc., and a pork-packing industry, and is a grain market. The seat of Purdue University. Pop. (1910) 20,081.

Lafayette (1873-1911), usually known as 'The Great Lafayette,' whose real name was Sigmund Neuberger. He was a great showman and made a speciality of illusionist turns in which he was unsurpassed, and which were equally popular in England, America, and on the Continent. Many stories are told of his eccentricities which more than once threatened to bring him into conflict with the police, and of his dog, 'Beauty,' for whom he manifested the most devoted affection. In May 1911 'Beauty' died at Edinburgh and was accorded a most elaborate funeral, being laid in a grave by the side of the spot where L. himself had arranged to be buried. On the evening of May 9, 1911, while he was performing his turn at the Empire Theatre, Edinburgh, the theatre was burnt to the ground, and L., who waited to secure a lion which took [illegible] was buried [illegible] which [illegible] and buried under his name were later found to have been those of one of his troupe, but L.'s own body was ultimately recovered.

La Fayette, Gilbert Motier de (1380-1462), a marshal of France, was descended from an ancient family of Auvergne. He served under Boucicaut and John I., who made him lieutenant-general in Languedoc and Guienne. In 1420 he was created marshal of France for his successes over the English and Burgundians on the Loire. He was in command of the troops at Baugé in 1422, and fought with Joan of Arc at Orleans and Patay in 1429.

La Fayette, Marie Joseph Paul Roch Yves Gilbert Motier, Marquis de (1757-1834), a French general and politician, born in the castle of Chavagnac in Auvergne. He came into his estates at the age of thirteen, and having served as sub-lieutenant under Noailles for a period, quitted France and sailed for America in 1777 to aid the colonists. He distinguished himself on the side of Washington, especially at the defence of Virginia in 1781, and at the battle of Yorktown in 1782. He had been made a major-general in the French army (1781), and in 1787 took his seat in the Assembly of Notables and demanded the convocation of the States-general, thus becoming a leader in the French Revolution. In 1789 he was elected to the States-General, and being made vice-president of the National Assembly laid on the table a declaration of rights based on the American Declaration of Independence. The same year he was chosen colonel-general of the New National Guard, and it was he who proposed the combination of colours now in the tricolour cockade of France. His position was difficult although he struggled for order and humanity, the Jacobins detested his moderation, and the court hated his reforming zeal. He supported the abolition of title and all class privileges, but the hatred of the Jacobins

increased and he was compelled to take refuge in Liège. He was imprisoned by the Austrians for five years, but released by Napoleon, and again was a leader of the Opposition (1825-30). In 1830, during the Revolution, he resumed his leadership of the National Guard, but was as unsuccessful as before. See *Mémoires, correspondances et manuscrits du Général La Fayette*, and E. Charavay, *Le Général La Fayette*.

La Fayette, Marie Madeleine Pioche de la Vergne, Comtesse de (1634-93), a French author, born in Paris. She studied Greek, Latin, and Italian, one of her tutors being Gilles de Ménage. She was friendly with Mme. de

Princesse de Montpensier, appeared in 1662, *Zayde* in 1670, and *La Princesse de Clèves* in 1678. The latter, her *chef d'œuvre*, which gives a vivid picture of the court life of her day, bears a striking contrast in its simplicity to the lengthy and extravagant romances of the time, and met with much criticism, even from Mme. de Sévigné. In answer to this criticism she wrote her last novel,

Madame de La Fayette.

Laffite, Jacques (1767–1844), a Paris banker, born at Bayonne. He started as a clerk in a bank, but by 1814 he was governor of the Bank of France, and in 1818 saved Paris from a financial crisis by buying a large amount of stock. In 1830 his house was the headquarters of the revolutionary party, and he supplied a great part of the necessary funds. In 1831 he resigned, and retired from office a ruined man, but with the remnant of his fortune founded a Discount Bank in 1837, which only prospered during his lifetime.

La Fontaine, Jean de (1621-95), a French poet, born at Château-Thierry in Champagne. From a child he began to write verses, and in 1654 published a verse translation of the *Eunuchus* of Terence. This got l' an introduction to Fouquet, Mæcenas of French literature at time, and he awarded La Fontain pension of 1000 francs for a piece verse quarterly. After this he t up writing seriously for a time, and produced *Le Songe de Vaux*, a medley of prose and poetry on Fouquet's country house, and *Les Rieurs du Beau-Richard*, a ballad, the same year (1659). But La Fontaine, though a charming and gifted writer, was dissipated and idle, and it was not until 1664 (he was forty-three) that he produced anything of importance. In this year the first book of his *Contes* appeared, the subjects of which are taken from Boccaccio, Ariosto, Machiavelli, and other writers. The stories are admirably told, but the book is coarse. In 1668 his *Fables Choisiès mises en Vers* appeared, and in 1669 his *Amours de Psyche et de Cupidon*. The *Fables*, which are free from the impropriety of the *Contes*, are known universally, and are generally regarded as his *chef d'œuvre*. They exhibit the fecundity and versatility of the author, and what perhaps is the greatest praise, and this is given by De Sacy, they give delight to three several ages—to the child by their freshness and vividness, to the student on account of their perfect art, and to the man of the world on account of the subtle reflections on character contained therein. La Fontaine was received into the Academy in 1684. *See* Walckenaer, *Histoire de la vie et des ouvrages de La Fontaine.*

Lafontaine, Sir Louis Hypolite (1807-64), a Canadian statesman, born in Lower Canada; educated at Montreal; became a barrister. In 1830 he became a member of the Legislative Assembly, and about 1839 leader of the 'parti prêtre.' He was opposed to the union of Upper and Lower Canada in 1840. He was an M.P. in 1841; Attorney-General in 1842-43; Premier for Lower Canada in 1848, and Chief Justice of Lower Canada in 1853.

Lagarde, Paul Anthon de (1827-91), a German Orientalist, born at Berlin, his real name being Bötticher, and Lagarde being assumed in 1854. He was a professor at Göttingen University from 1869 to his death. He edited *Didascalia apostolorum syriace*, 1854; *Prophetæ chaldaice*, 1872; *Hagiographa chaldaice*, 1874; Arabic, Syriac, and Coptic translations of the Scriptures, and also wrote many works on Persian and other Oriental subjects.

Lagden, Sir Godfrey Yeatman (*b.* 1851), a S. African statesman. In 1878 he was chief clerk to state secretary, Transvaal; in 1881-82

assistant commissioner; in 1892 British commissioner, Swaziland; from 1893-1901 resident commissioner, Basutoland; from 1902-4 chairman of S. African Native Affairs Commission; from 1901-7 commissioner for Native Affairs and member of Legislative and Executive Councils, Transvaal.

Lager Beer, *see* BREWING—*Varieties of beer.*

Lagerlöf, Selma (*b.* 1858), a Swedish novelist and woman of letters, born in Vermland, Sweden; educated at Royal Women's Superior Training College, Stockholm; taught at Landskrona, 1885-95. In 1890 she received a prize in a magazine for some chapters of *Gösta Berlings Saga*, and took up literature in earnest after 1895. She received a doctor's degree from Upsala University in 1907, and gained the Nobel prize in 1909. Her works include: *Gösta Berling*, 1891; *Invisible Links*, 1894; *Miracles of Antichrist*, 1897; *From a Swedish Homestead*, 1899; *Jerusalem*, 1901; *Legends of Christ*, 1904; *The Adventures of Nils*, 1906; *The Girl from the Marsh*, 1908.

Laghouat, or **El Aghuat,** a military cap. of Algerian Sahara, 200 m. S.W. of Algiers. An important mart. Pop. 7000.

Lagny, Thomas Fantet de (1660-1734), a French mathematician, born at Lyons; studied for law. His fondness for and ability in mathematics gained him the patronage of Abbé Bignon, and he became professor of hydrography at Rochefort. In 1716 he became sub-director of the Banque Générale, and was also a keeper of the [illegible] Paris. Author of works.

Lago Maggiore, *see* MAGGIORE.

Lagony, or **Lagonoy,** a tn. of Luzon, Philippine Is., in the prov. of Ambos Camarines. It is situated in the S.E. of the island, on the Bay of Lagony. Pop. 10,000.

Lagoon (Fr. *lagune*, Lat. *lacuna*, a pool): 1. A shallow stretch of salt water near the sea. Such Ls. have been formed by the gradual raising of a sand-bar on the extension of a spit on a low shore, so that a sheet of water is isolated from the sea. 2. A sheet of fresh water at some distance inland, usually shallow and of small extent. Such are found in the old lake plains of Australia, and are the haunt of numerous aquatic birds. 3. The expanse of smooth sea-water enclosed by a coral reef or atoll in the South Seas, etc.

Lagos, a former British crown colony of W. Africa, on the Slave Coast, since 1906 a W. prov. of S. Nigeria. Area 29,000 sq. m. It is the centre of the W. African palm-oil trade, and also exports oil nuts, rubber, cotton, coffee, cacao, ivory, and gum-copal. The climate is very unhealthy for Europeans. Pop. 1,500,000 (500 Europeans).

Lagos, the cap. of S. Nigeria, W. Africa, on the Ogun R. It is the only natural harbour on the coast for 1000 m.; and is an important port of call for steamers, and a trade centre. Pop. 53,000 (400 Europeans).

Lagos, a fortified seaport of Algarve prov., Portugal, on S. coast, 110 m. S. of Lisbon. There are old walls and an aqueduct, and near is the site of ancient Lacobriga. Pop. 8500.

Lagos, a tn. of Jalisco, Mexico, on Mexican Central Railway, 100 m. N.E. of Guadalajara. Near it are some famous silver mines, and the town is noted for its churches. Also called Lagos de Morena. Pop. 14,716.

La Grange: 1. The cap. of Troup co., Georgia, U.S.A., 60 m. S.W. of Atlanta. It has cotton mills and various manufactures, and contains several educational establishments. Pop. (1910) 5587. 2. A tn. of Cook co., Illinois, U.S.A., on the Burlington route, 15 m. S.W. of Chicago. Pop. (1910) 5282.

Lagrange, Joseph Louis, Comte (1736-1813), a French mathematician, born at Turin of French parents; educated at the College of Turin. At an early age he became professor of mathematics in the Royal School of Artillery, Turin, and there formed an association which rose to the status of an Academy of Sciences. He contributed larely to the *Memoirs of the Academy of Turin*, investigating, among other subjects, the propagation of sound, the vibration of chords, the motion of fluids. In 1764 he gained a prize offered by the French Academy of Sciences for a *Theory of the Libration of the Moon*. In 1766 he became director of the Berlin Academy of Sciences, in 1772 a foreign associate of the Academy of Paris, and in 1787 settled in Paris, where he became in 1794 professor of geometry at the Polytechnic School. Author [illegible] 1788; [illegible] great [illegible] *Variations*.

La Grita, or **Grita,** a tn. in Venezuela, S. America, in the state of Los Andes, situated 60 m. S.W. of Merida, on the R. Grita. Tobacco, sugar, and coffee are largely grown. Pop. 10,500.

La Guayra, or **La Guaira,** chief seaport of Venezuela, on the Caribbean Sea, 10 m. N. of Caracas, of which it is the port. It is closely surrounded by mountains except to seaward. There is an excellent harbour of 90 acres, with a depth alongside the quays of 10 to 40 ft., and a large export trade is done in coffee, cacao, indigo, cotton, sugar, and hides. The town is badly built, and the climate unhealthy. Pop. 12,000.

Laguna: 1. A prov. of Luzon, Philippine Is., on Laguna Bay. The district is mountainous (chief peaks, Banajao, 6000 ft., and Maquilin,

3500 ft.), with fertile valleys, and rice, coffee, and cacao are produced. Cap. Santa Cruz. Area 752 sq. m. Pop. 150,000. 2. A tn. of Teneriffe, formerly capital of Canary Is., situated at an altitude of 1790 ft. A bishop's see. Pop. 13,000. 3. Seaport of Santa Catharina, Brazil, on E. coast at the mouth of a lagoon running northwards parallel with the coast, 60 m. S.W. of Desterro. Pop. 3000.

Lagunaria, a small genus of evergreen plants which are natives of Australia. *L. Patersoni*, the commonest species, is known variously as the white-oak, white-wood, and cowitch tree.

Lagurus Ovatus, the hare's-tail grass, a species of Gramineæ, constitutes in itself a genus, and is cultivated as an ornamental grass. It grows wild in Guernsey and round the Mediterranean.

La Habana, or Havana, a prov. of Cuba, W. Indies, lying between Matanzas and Pinar del Rio provs. Area, 2770 sq. m. The coast is much indented, and the district is well watered. Timber, coffee, sugar, tobacco, cereals, fruit, and vegetables are grown, and there is much mineral wealth. Cap. Havana. Pop. 424,804.

La Halle, Adam de (c. 1240-87), a French poet and dramatist; nicknamed 'le bossu d'Arras,' for what reason is unknown. Born at Arras, and in 1283 followed Robert II. of Artois to Naples, where he died. He is notable as the originator of comic opera in *Le jeu de Robin et de Marion*, and of modern comedy in *Le ju Adam ou de la fuellie*, which is partly autobiographical. His works were edited by Coussemaker (1872) and Rambeau (1886).

La Harpe, Jean François de (1738-1803), a French dramatist and critic, born at Paris, educated at College of Harcourt. In 1766 he became a member of the French Academy, and in 1786 began to lecture on literature at the Lycée of Paris. He was active in the Revolution, and was imprisoned in 1793. His works include: *Warwick*, 1763; *Timoléon*; *Pharamond*; *Eloges*; *Gustavus Vasa*, 1766; *Mélanie*, 1770; *Philoctète*; *Tangu et Felime*; *Cours de Littérature* (18 vols.).

Lahire, Philippe de (1640-1718), a French painter, sculptor, and geometrician, born in Paris, the son of Laurent de Lahire, a celebrated painter (*d.* 1656). In 1678 he was admitted into the Academy of Sciences, and was employed by the government in continuing Picard's measurement of the meridian. He also assisted Colbert, and was engaged by the Academy in taking the levels for the aqueducts proposed to be made by Louis XIV. He was for some years professor of mathematics in the College of France. His works include: *Conic Sections*, 1685; *Treatise on Mechanics*, 1695; *Astronomical Table*, 1702. *See* Fontenelle, *Eloge de Lahire*.

Lahn, a river of Germany, and a trib. of the Rhine. Rising in the S. of Westphalia, its direction is generally W.S.W. It passes through the towns of Giessen, Marburg, Wetzlar, and Ems, and eventually joins the Rhine 6 m. above Coblentz. The length of the river is 135 m., of which the part from Giessen is canalised.

La Hogue (harbour), *see* HOGUE.

Lahore, a div. of Punjab, British

tan, Montgomery, Jhang, Gujranwala, Lahore, Amritsar, and Gurdaspur. The extremes of temperature are very great, and the rainfall uncertain, so that the district is parched and arid. Area 24,872 sq. m. Pop. 5,466,664.

Lahore, the cap. of dist. and div. of same name, Punjab, British India, on a trib. of the Ravi, 32 m. W. of Amritsar. It stands in a populous and fertile plain at the junction of several railways. The city has two parts, the old town and the new. The former, which was of great importance under the Mogul emperors, is surrounded by walls, and includes the citadel, where the palace of the Sikh sovereigns stands. It has narrow and winding streets, and contains some splendid mosques and interesting ruins. The new European quarter includes Naulakha, Anarkalli, and Donald Town, and contains the Government House, the Lawrence Gardens, Punjab University, etc. There is a military cantonment 6 m. away. L. became British in 1846. There are numerous manufactures and large railway shops. Pop. 228,687.

Lahr, a tn. of Germany in the grand-duchy of Baden, on the Schutter, 9 m. S. of Offenburg. The principal industries are lithography and printing, and manufs. of woollens, leather, tobacco, etc. Pop. 15,192.

Laibach, the cap. of Carniola, Austria, Hungary, on R. Liabach, 7 m. from its confluence with the Save, and 35 m. N.E. of Trieste. The seat of a prince-bishop. It contains some fine buildings, including an old castle. There are cotton spinning and bell founding industries. L. was visited by a severe earthquake in 1895. Pop. 41,711.

Laidlaw, William (1780-1845), a friend of Sir Walter Scott, born in Selkirkshire, and took up farming. In 1817 he became a kind of steward at Abbotsford, acting as Scott's

amanuensis and general adviser. He wrote several lyrics and ballads, notably *Lucy's Flittin'*, and compiled part of the *Edinburgh Annual Register* under Scott's direction. After Scott's death he was factor on two Ross-shire estates, and died at Contin.

Laing, David (1793-1878), a Scottish historian and antiquary, born in Edinburgh, the son of a bookseller; educated at Edinburgh University, and joined his father, becoming partner in 1821, and travelling in search of rare books. In 1823 he became secretary to the Bannatyne Club, and edited many of its issues; in 1826 fellow of the Society of Antiquaries in Scotland, and contributed largely to its *Transactions*; in 1837 librarian to the Signet Library; and in 1854 honorary professor of antiquities to the Royal Scottish Academy. Among the works of which he issued valuable editions are: *Dunbar's Poems*, 1834; *Baillie's Letters and Journals*, 1841-42; *Works of John Knox*, 1846; and the poems of Lyndsay, Dunbar, and Henryson.

Laing, Samuel (1812-97), a British author, politician, and railway administrator, born at Edinburgh; educated at Cambridge, called to the bar in Lincoln's Inn in 1837. He was secretary to the Railway Department of the Board of Trade, 1842-46; a member of the Railway Commission, 1845-46; chairman of the L.B. and S.C.R., 1848-52 and 1867-94; chairman of the Crystal Palace Company, 1848-54; Liberal M.P. for Wick, 1852-57, 1859, and 1865-68; financial secretary to the Treasury, 1859-60; financial minister in India, 1860; M.P. for Orkney and Shetland, 1872-75. Author of *Modern Science Modern Thought*.

Laing's Nek, a pass through Drakensberg, Natal. Alt. from . to 6000 ft. The railway, opene 1891, pierces it, and previously the road over it was the chief means of communication between Durban and Pretoria. It figured in the Boer War of 1880-81.

Lairesse, Gérard de (1640-1711), a Dutch painter and etcher, born at Liege. He was a pupil of his father, Regnier L., but modelled his style on Nicholas Poussin. He worked for some time in Utrecht, but finally settled in Amsterdam, where he died. At the end of his life he became blind. Wrote *Art of Painting* (Eng. trans. by W. M. Craig), 1817.

Lais, the name of two famous courtesans of ancient Greece: 1. A native of Corinth (*b. c.* 4 famous for her greed and ness; among her lovers philosophers Aristippus and Diogenes.

2. A native of Hyccara, Sicily (*b. c.* 420 B.C.), taken to Corinth after the Athenian expedition to Sicily. She was the rival of Phryne, and numbered the painter Apelles among her lovers. She was stoned to death by some jealous women of Thessaly.

Laissez-faire, a French phrase meaning 'let alone,' an axiom of some political economists deprecating state interference in attempts to regulate or restrict trade competition. Its origin is attributed to Legendre about 1680, who, in an interview with Colbert respecting government interference with commerce, remarked 'Laissez-faire, laissez-passer.'

Laity, The, strictly speaking, means all persons who are not clergy, but the term has been extended to mean all persons who are not of a certain profession, such as law or medicine, as distinguished from all belonging to it.

Laius, in ancient Greek legend, the son of Labdacus and father of Œdipus. He succeeded his grandfather as king of Thebes, and married Jocasta, the daughter of Creon. An oracle having said that he would die by his son's hand, he ordered the child to be destroyed. Œdipus was, however, rescued by a shepherd, and lived to slay his father, not knowing who he was. See *Œdipus*, also Sophocles' *Œdipus Tyrannus*.

Lai-yang, a city in the prov. of Shan-tung, China, 60 m. W.S.W. of Wei-hai-wei. It has manufs. of silk and a peculiar sort of wax. Pop. (estimated) 50,000.

Lake, a still sheet of water lying in a hollow of the ground and not in direct communication with the sea. Ls. are almost universally distri- common in lue to various e formed by are found in U.S.A., and in many places where there are dormant volcanoes, while Ls. formed by the subsidence of the roofs of subterranean limestone caves are found among the movement formation for such L a landslip damming up the course of a river is the cause of such L. basins as the Gohna, formed in the Himalayas in 1894. In northern latitudes and in the Alps a glacier often forms a dam in a river valley, and the deposit of glacial drift left by a retreating glacier is a very common cause of L. formation, especially in N. on is pro- the Ls. of Under- ground Ls. are due to a similar decom-

position of the rock. The L. waters are either fresh or salt. Salt and bitter Ls. abound in regions where there is small rainfall and no draining river. Such Ls. as the Dead Sea and Great Salt L. are descended *from fresh water Ls., only becoming* saline when the rate of evaporation exceeded the rate of the inflow. The Caspian and Ural seas are really only isolated portions of the ocean. When the rate of inflow exceeds that of evaporation the L. grows gradually fresher. *See* F. A. Forel, *Handbuch der Seenkunde*, 1901. For movements of L. water *see* SEICHES, and for the forms and biology of fresh-water Ls. *see* GEOGRAPHICAL DISTRIBUTION.

Lake, Rev. Kirsopp (*b.* 1872), a professor of Early Christian literature and N.T. exegesis in the University of Leyden, born at Southampton, and educated at St. Paul's School and Lincoln College, Oxford. He was curate at the Church of St. Mary the Virgin, Oxford, 1897-1904; cataloguer of Greek MSS. in Bodley's Library, 1903-4; professor of theology at Leyden, 1904. Among his publications are: *The Text of the New Testament*, 1900; *Texts from Mount Athos*, 1902; *The Historical Evidence for the Resurrection of Jesus Christ*, 1907; *The Early Days of Monasticism on Mount Athos*, 1909; *The Codex Sinaiticus*, 1910.

Lake Charles, a city, par. of Calcasieu, Louisiana, U.S.A., 190 m. W. of New Orleans. It is the centre of a big lumber trade and rice-producing district, and has rice mills, car shops, and a large woollen industry. There are sulphur mines and oil fields in the neighbourhood. Pop. (1910) 11,449.

Lake City: 1. A tn. and co. seat of Columbia co., Florida, U.S.A., 59 m. W. of Jacksonville. Vegetables and fruits are grown, and cotton and tobacco produced in the neighbourhood. The town has some trade in lumber, phosphates, and turpentine. Pop. (1910) 5032. 2. A tn. of Wabasha co., Minnesota, U.S.A., 58 m. S.E. of St. Paul. There are flour mills and carriage factories. Pop. (1910) 3128.

Lake District, The, in England, lies in Cumberland, Westmorland, and the Furness district of Lancashire, and embraces all the principal English lakes, although its area is only about 700 sq. m. The scenery and character of the lakes is very varied, ranging from wild, picturesque rocky precipices to flat or softly sloping wooded banks. Windermere, the largest of the lakes (10¼ m. by 1 m.), lies in the S.E. corner of the district and is connected with Rydal Water, Grasmere, Elther Water, and Esthwaite. To the W. rises the Scafell range, terminating in the Old Man of Coniston, which rises above Coniston Water, and to the E. of the Scafell range lies Wastwater *(3 m. long), the deepest of all the* lakes. In the N.E. is Ullswater, with the sequestered Hawes Water to the S.E. To the W. of Helvellyn is Thirlmere, which is the reservoir for the water supply of Manchester, dammed in 1890-94. The R. Derwent, rising in the Scafell range, flows N. through Borrowdale and forms Bassenthwaite and Derwentwater, the most beautiful of the lakes. Westwards from Borrowdale opens a valley in which lie Buttermere and Crummock Water, and between these and the Derwent valley is Ennerdale Water. There are several waterfalls, the chief, perhaps, being Lodore, near Derwentwater. Near Derwentwater lies Keswick, the chief town of the district, while Ambleside and Bowness (Windermere) and Hawkshead (Esthwaite) are other places of importance. *See* Wordsworth's *Descriptions of the Scenery of the English Lakes*, 1823; W. Knight, *Through the Wordsworth Country*, 1890; Bradley, *The Lake District*, 1901; Collingwood, *The Lake Country*, 1902; and Rawnsley's *Round the Lake Country*, 1909.

Lake Dwellings, houses built on platforms supported by piles. *See* PILE DWELLINGS.

Lake Geneva, *see* GENEVA.

Lake of the Thousand Islands, an extension in the upper reaches of the St. Lawrence R., Canada, near Lake Ontario, enclosing the group of rocky islets known as the 'Thousand Islands.'

Lake of the Woods, a large irregular lake in the S.W. of Ontario, Canada, touching Manitoba on the W. and Minnesota, U.S.A., on the S. Its length is 70 m., breadth 10 to 50 m., circumference 300 m., and area 1500 sq. m. It is fed by the Rainy R. and discharges, through the Winnipeg R., into Lake Winnipeg.

Lakes (dry powder colours), *see* PIGMENTS.

Lake School of Poets, the name given to a group of poets of whom Wordsworth was the acknowledged head and founder, and so called because his home for sixty years was in the Lake District. Southey, Samuel Taylor Coleridge, and De Quincey were the chief of the group, and Shelley, Scott, Carlyle, Mrs. Hemans, Matthew Arnold, Edward Fitzgerald, Tennyson, Gray, and Charles Lamb, although not directly associated with the school, were connected with the district.

Lakewood, a small tn of Ohio,

U.S.A., in Cuyahoga co., 7 m. S.W. of Cleveland, with a wine industry. Pop. (1910) 15,181.

Lakhimpur, a dist. in the Brahmaputra valley in Assam, India. It is a prosperous tea-growing centre, with tea-gardens and coal mines worked by the Assam Railways and Trading Company. There are large oil wells at Digboi, and the oil is refined at Margherita into kerosene and paraffin. There are also brick and pipe manufactures and extensive timber cutting. In 1838 the district was taken under British administration and the headquarters established at Dibrugarh. Area 3724 sq. m. Pop. 400,000.

Lakshmi, in Hindu mythology, the goddess of fortune, and the wife of Vishnu represents his creative energy. The festival of L. is celebrated by the writer caste in Bengal, who, in her honour, purify all writing materials and abstain from using them during the feast.

Lalande, Joseph Jerôme Lefrançais de (1732-1807), a French astronomer, born at Bourg (dept. Ain). After qualifying as an advocate, he was sent to Berlin in 1752 to make observations on the lunar parallax there, and on the successful completion of his task was appointed adjunct-astronomer to the Academy of Paris. In 1762 he succeeded Delisle as professor of astronomy in the Collège de France, which he retained until 1807. In 1802 he instituted the Lalande prize for the chief astronomical performance of each year. Among his publications are: *Traité d'astronomie*, 1762; *Histoire Céleste Française*, 1801, containing his observations of 50,000 stars; and *Bibliographie astronomique*, 1803.

Lalin: 1. A tn. in the prov. of Pontevedra, N.W. Spain. It is the centre of a highland agricultural district, and has tanneries and paper mills. Pop. 18,000. 2. A walled tn. in the prov. of Kirin, Manchuria, 120 m. N. of Kirin. Pop. 20,000.

Lalita-Vistara, one of the most celebrated works in the literature of Buddhism, being an account of the life and doctrines of the Buddha, partly in prose and partly in verse, and dating, probably, from about the time of Christ. A Tibetan version has been translated into French by P. E. Foucaux, and there is an English translation of the Sanskrit version, [illegible] *f the Bengal* Burnouf's *Introduction à l'histoire du Buddhisme Indien*, 1844.

Lalitpur, a tn. in the United Provinces of British India, in the Jhansi district, 110 m. S.E. of Gwalior. It contains beautiful Jain and Hindu temples, and its chiefs were prominent in the Indian Mutiny. There is a trade in oil-seeds, hides, etc. Pop. 11,500.

Lally-Tollendal, Thomas Arthur, Comte de (1702-66), a French general born at Romans, Dauphiné. He inherited his title from his mother, his father being an Irish Jacobite, Sir Gerard O'Lally. He entered the French army in 1721, served in the war against Austria (1734), and took part in the battles of Dettingen (1743) and Fontenoy (1745). He accompanied Prince Charles Edward Stuart to Scotland in 1745, and was present at the battle of Falkirk. When war was declared between France and England (1756) L. was sent as commander of the French expedition to India. At first he met with some success, but, deserted by the fleet, under Laché, was forced to retire from the siege of Tanjore and of Madras (1758). He was defeated at Wandiwash (1760) and forced to surrender Pondicherry in 1761. As an English prisoner on parole he returned to France, was imprisoned in the Bastille for two years, and finally tried and executed in 1766. *See* Voltaire's *œuvres complètes*, and Hamont's *Vie*, 1887.

Lally-Tollendal, Trophime Gérard, Marquis de (1751-1830), a French politician and author, son of the above, born in Paris. After his father's execution he devoted himself to proving his innocence, but without complete success. In 1779 he held the office of *grand bailli* of Etampes, and in 1789 was deputy to the States-general for the *noblesse* of Paris. He took part in the early defeat of Louis XVI., but in 1791 retired to Switzerland and later to England. He returned to Paris during the Consulate, and was created a peer by Louis XVIII. In 1816 he became a member of the Academy. He published: *Plaidoyer pour Louis XVI.*, 1793; *Défense des Emigrés Français*, 1794; and *Le Comte de Strafford*, 1795.

Lama, *see* LLAMA.

Lamachus, an Athenian general during the Peloponnesian War, and the son of Xenophanes. He was sent into Sicily with Nicias and Alcibiades, and displayed great courage and ability [illegible] was [illegible] Syracu[illegible] Aristo[illegible] tarch's *Nikias*.

Lamaism (Tibetan *llama*, spiritual teacher), a corrupt form of Buddhism, the religion prevalent in Tibet and Mongolia. Its headquarters are at Lhassa, the capital of Tibet, where the Dalai Lama ('ocean priest' or 'sea of wisdom') resides. The Dalai Lama

is regarded as the incarnation of Avalokitesvara, and has supremacy in all temporal matters. The Tesho Lama, or Pantshen Lama, the in-

means of the oracles, prayer, and the drawing of lots. Next in rank to the grand lamas are the Chutuktus, who correspond to the cardinals of the Roman Catholic Church. The Chubil Khans or priests, are also incarnations, and have under them four orders of lower clergy. There are numerous lamaseries which are the educational as well as the religious institutions of Tibet. At the head of each is a living Buddha in the person of a Chubil Khan. The worship of Buddha and of spirits and saints takes the form of incantations, and the beating of diverse musical instruments. A person who is dying must be attended by a lama, so that his spirit may not wander restlessly but find a happy dwelling-place in some other human form. *See* L. A. Waddell, *The Buddhism of Tibet*, 1895; Köppen, *Die Lamaische Hierarchie und Kirche*, 1859; and A. H. Francke, *History of Western Tibet*, 1907.

Lama Miao (Mongolia), *see* DOLON-NOR.

La Mancha, *see* MANCHA, LA.

Lamarck, Jean Baptiste Pierre Antoine de Monnet, Chevalier de (1744-1829), a French naturalist, born at Barentin in Picardy. In 1760 he entered the army and won great distinction, but owing to illness he was obliged to leave the service, and subsequently devoted himself to the study of natural science. In 1778 he published his *Flore Française*. In 1781-82, as tutor of Buffon's son, he visited most of the famous botanical gardens of Europe, and on his return began his elaborate series of contributions to botany, *i.e.* the *Dictionnaire de Botanique* and *Illustrations de Genres*. In 1788 he became custodian of the Jardin du Roi, and on the reconstruction of that institution in 1893, was appointed professor of zoology. In 1809 he published his *Philosophie Zoologique*, and between 1815 and 1822 his *Histoire des Animaux sans Vertèbres* (7 vols.). *See* Haeckel's *Die Naturanschauung von Darwin, Goethe, und Lamarck*, 1882; *Lamarck, par un Groupe de Transformistes, ses Disciples*, 1887; Perrier's *Lamarck et la Transformisme Actuel*, 1893; and Packard's *Lamarck*, 1902.

La Marmora, Alfonso Ferrero, Cavaliere del (1804-78), an Italian gene
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(1848). In 1848 and again from 1849-55 he held the portfolio of war during which period he reconstructed the Sardinian army. In 1855 he was in command of the Sardinian forces during the Crimean War, and on his return again became Minister of War. In 1866 he concluded an alliance with Prussia against Austria, but was defeated by the latter at Custozza, after which he was accused of treason. He wrote in self-defence, *Un po più di luce* (1873), which irritated Bismarck, who charged him with having revealed state secrets. *See* G. Massani, *Il Generale La Marmora*, 1880.

Lamartine, Alphonse Marie Louis de Prat de (1790-1869), a French poet, born at Mâcon. His father had been imprisoned for his royalist leanings

The success of his *Premières Méditations Poétiques* (1819) led to his being appointed attaché to the French embassy at Naples, and during the supremacy of the Bourbons he occupied several important diplomatic posts. His *Nouvelles Méditations Poétiques* (1823), *La Mort de Socrat* (1823), *Le Dernier Chant du Pèlerinage de Childe-Harold* (1825), and *Harmonies poétiques et religieuses* (1829), led to his being admitted a member of the Academy (1829). A long projected voyage to the East led to the *Voyage en Orient*, in prose (1835). His *Jocelyn* (history of a country parson) was published in 1836; *La Chute d'un Ange* in 1838, and *Les Recueillements Poétiques* in 1839, but during this period it was as an orator, not as a poet, that he enjoyed the greatest popularity. In 1835 he was elected 'député' for Bergues, and from 1837-48 he was 'député' for Mâcon, and at the revolution of Feb. 1848 he was considered 'the man of France,' as the defender of the 'tricolor' against the 'rouges.' In the provisionary government he wished to play the rôle of a Moderate, and lost his popularity, securing very few votes in his candidature for the presidency of the republic. After the *coup d'état* of Dec. 1848, he retired permanently from public life. In his retirement he wrote a series of novels, *Raphaël* (1849), *Les Confidences* (1849), *Les Nouvelles Confidences* (1851), and *Graziella* (1852). Under the empire he fell into great poverty and wrote such prose works as *Cours familier de littérature* (1856), and Inferior

poetry, *Les Visions* (1854), to support himself. In 1868 he was voted a pension of 500,000 francs by the government, but his privations had worn him out, and he did not long enjoy it. In addition to the works already mentioned he wrote: *Histoire des Girondins* (1847), *Histoire de la Révolution de* 1848 (1849), *Trois Mois au Pouvoir* (1848), *Geneviève* (1850), *Le Tailleur de Pierres de Saint-Point* (1851), *Histoire de la Restauration* (1851-52), *Histoire des Constituants* (1854), *Histoire de la Turquie* (1855), *Histoire de la Russie* (1856), all in prose, and the tragedy *Toussaint Louverture* (1856). His *Œuvres Complètes* were published by Didot in 14 vols. (1849-50). *See* Falconnet's *Alphonse de Lamartine*, 1840; Lurine's *Histoire Poétique et Politique de Alphonse de Lamartine*, 1848; Sainte-Beuve's *Portraits Contemporains* [illegible] i. and iv.; *Lamartine*, [illegible] *venirs sur Lamartine*, 1884; Lady Domville's *Life of Lamartine*, 1888, and Deschanel's *Lamartine*, 1893.

Lamb, Charles (1775–1834), an essayist, born on Feb. 10, in Crown Office Row in the Temple, London, and was educated at Christ's Hospital. The best record of his schooldays will be found in his own essays, *On Christ's Hospital and the Character of* [illegible] *Christ's* [illegible] *ırs Ago.* [illegible] *ıe* made the acquaintance, which ripened [illegible] where he was employed for thirty years. His salary was small, and he had to contribute to the maintenance of his family, with whom he lived, but he seems to have been fairly contented. The serenity of his mind was, however, rudely disturbed in 1796, when his sister, the poor half-mad Mary, in a fit of uncontrollable temper, killed [illegible] A [illegible] was brought in, and, by the exercise of much kindly influence, the girl was not sent to an asylum, but was mercifully handed over to the custody of her brother Charles, who lived with her for the whole of his life. Insanity was in the blood of the family, for in the winter of 1795-96 L. himself was confined for six weeks. The first appearance of L. in print was in the latter year, when Coleridge, in the *Poems on Va* [illegible] four of his [illegible] issued *Blank* [illegible] and Charles Lloyd. His next publication was *A Tale of Rosamund Gray and Old Blind Margaret* (1798). Soon L. began to augment his income by contributing to the periodicals and newspapers, and in 1802 he printed his blank-verse play, *John Woodvil*, a tragedy. He was now living with his sister in King's Bench Walk, and there, and afterwards in Inner Temple Lane, they resided for eighteen years. In 1805 his farce, *Mr H.*, was produced, and damned, at Drury Lane; and two years later Godwin brought out the famous *Tales from Shakespeare*, written by L. and his sister, which work was at once successful, and brought in its train many well-relished offers of hack-work. He gradually began to develop the vein that reached its greatest heights in the *Essays of Elia*, and he wrote in this style for Leigh Hunt's *Reflector*, and for the *Gen* [illegible] new periodical, [illegible] was brought ou [illegible] an early contributor, his first paper, 'Recollections of the South Sea House,' being signed 'Elia.' He wrote for *The London Magazine* regularly, and in 1823 collected these essays. In March 1825 he was retired with a pension from the India House on the grounds of ill-health. 'After thirty-three years' slavery,' he wrote to Wordsworth, 'here am I, a freed man, with £441 a year for the remainder of my life.' He did various miscellaneous work during the next years. In 1830 appeared *Album Verses*, in the following year, *Satan in Search of a Wife*, and in 1833, *The Last Essays of Elia*. His health now failed, erysipelas intervened, and he died on Dec. 27. He was buried in Edmonton churchyard. The essays of L., and it is by his essays that he takes the high place in literature that is his, are universally read and admired. Their humour, their literary finish which never suggests the burning of midnight oil, their individuality, each and all endear them to countless thousands, for if L. is one of those writers who peculiarly appeals to his brother-authors, he is one of those writers who appeals also to the larger public, a combination rare among essayists. In all his best writings his personality can be detected, and his personality is very attractive. The hard-working clerk who devoted his life to the care of his half-mad sister is one of the most pathetic pictures in the annal [illegible] small won [illegible] of him as [illegible] charm is undoubted, and he numbered among his friends and correspondents men so various as Wordsworth, Southey, Coleridge, Hazlitt, Hood, Leigh Hunt, and Proctor. Indeed, to know him was to love him, and the

circle of those who delighted in him was bounded only by the limits of his gregariousness. The most human of men, he was a looker-on at the life that was everywhere around him. He was in the world, but never quite of it. He was always detached from reality, and had a curious rich vein of phantasy, that often revealed itself in his writings. His delightful, intimate *Correspondence* was edited by Canon Ainger in 1883-88, and a more complete edition was brought out by E. V. Lucas, 1903-05. The standard biography is by Lucas, 1905

Lamb, Mary Anne (1764-1847), an author, was the sister of Charles L., the essayist, whose senior she was by eleven years. Mentally unbalanced, she first gave signs of her desperate condition when in 1796, in a fit of fury, she mortally wounded her mother by stabbing her with a knife. She was tried, and a verdict of temporary insanity was brought in; but instead of being consigned to an asylum, she was so fortunate as to be handed over to the custody of her brother, who took charge of her so long as he lived. They stayed always together, went about together, and were devoted to each other, Charles Lamb, if sometimes he found the task of looking after her irksome, never repining. In 1807 she assisted him in the preparation of the *Tales from Shakespeare*, and while he wrote about the tragedies, she dealt with the comedies. She helped her brother to educate his ward, Emma Isola, who made her home with them until 1833, when she married Edward Moxon, the publisher. Mary L. survived her brother about thirteen years, and died in St. John's Wood, London, on May 20. There is a biography by Mrs. Gilchrist.

Lamb, William (1779-1848), *see* MELBOURNE.

Lamballe, Marie Thérèse Louise, Princess de (1749-92), a daughter of the Prince of Carignan, born at Turin. In 1767, she married Stanislaus, Prince of Lamballe, who died the next year. She was the devoted companion of Marie Antoinette, and was appointed by her superintendent of the royal household. Refusing a means of escape, she was imprisoned with her mistress in the Temple for a week, then removed to La Force, and beheaded, and her head, on a pike, was placed in front of the queen's apartments.

Lambarde, William (1536-1601), a British jurist and antiquary, born in London. In 1556 he was admitted into the Society of Lincoln's Inn, and in 1568 he published a collection and translation of Saxon laws. In 1570 he was living near Greenwich, where he founded a hospital for the poor in 1574. His best-known book, *A Perambulation of Kent*, was published in 1576. In 1578 he became a bencher of Lincoln's Inn, and in 1579 a magistrate c
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(1581). In 1600 he became keeper of the Tower records.

Lambayeque: 1. A dept. of N.W. Peru, has an area of 4614 sq. m. It is very dry, and a large portion is desert waste. Cap. Chiclayo. Pop. 124,091. 2. A tn. in the above dept., 7m. from the mouth of Lambayeque R. It contains a fine cathedral and college. The chief manufs. are textiles and soap; quinine is also exported. Pop. 60,000.

Lambert, John (1619-94), an English general, born at Calton Hall, Kirkby Malham, Yorkshire. At the outbreak of the Civil War he joined the army of the Parliament, took part in the battles of Nantwich and Bradford, and greatly distinguished himself at Marston Moor (1644). In 1647 he was appointed major-general of the Northern forces, and in 1648 was in command of Cromwell's army in Scotland. He fought at Preston and Dunbar, and commanded the right wing at Worcester (1651). He opposed Cromwell's assumption of supreme power, and retired to his villa at Wimbledon during the Protectorate. Under Richard Cromwell he was a member of the 'Committee of Safety.' At the Restoration he was arrested and banished to Guernsey. *See* 'Life' in Whitaker's *History of Craven*, ed. by Morant, 1878.

Lambessa, or Lambèse, a tn. of Algeria, in the prov. of Constantine, is 5 m. S.E. of Batna. It contains the ruins of an c
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ruins were discovered by De la Mare.

Lambeth, a metropolitan bor. of London, co. Surrey, on the S. bank of the Thames, opposite Westminster. Lambeth Palace, the official metropolitan residence of the Archbishop of Canterbury since 1197, has a fine portrait gallery and a valuable library. The gardens are now open to the public. Since 1885 L. has returned four members to parliament. Pop. (1911) 298,126.

Lambeth Conferences, assemblies of Anglican bishops of the United Kingdom, the British colonies, and America, held periodically at Lambeth Palace. The idea was suggested by Bishop Hopkins of Vermont in 1851. The first assembly met at the invitation of Archbishop Longley in 1867. Out of 144 bishops of the Anglican Communion, 76 attended the conference. Many Anglican bishops, including the Archbishop of

York, refused to attend on conscientious grounds, and Dean Stanley declined to allow the closing service of the conference to be held in Westminster Abbey. Since then the value of the conferences has been fully recognised. At the fifth conference, convened by Archbishop Davidson, 241 bishops were present. Matters of urgent and practical interest are discussed, but the conference has not the functions of a synod. *See* Archbishop R. T. Davidson's *The Lambeth Conferences of* 1867, 1878, *and* 1888, 1896; and *Conference of Bishops of the Anglican Communion, Encyclical Letter*, etc., 1897 and 1908.

Lamb's Lettuce, *see* CORN SALAD AND LAMB'S LETTUCE.

Lambton, Sir Hedworth (*b.* 1856), a British admiral, the third son of the second Earl of Durham. He entered the navy in 1870, was present at the bombardment of Alexandria and the battle of Tel-el-Kebir (1882). From 1894-97 he was private secretary to the first Lord of the Admiralty, successively Earl Spencer and Lord Goschen. He commanded the naval brigade in the defence of Ladysmith during the Boer War. He contested Newcastle in the Liberal interest in 1900, was in command of the royal yacht (1901-3), was second in command of the Channel fleet (1903), and rear admiral of the cruiser division of the Mediterranean fleet (1904-6). He was knighted in 1908 and appointed to the command of the China station in that year. In 1911 he became vice-admiral, and was appointed commander-in-chief at Portsmouth in 1912. In 1911 he assumed the name of Meux. *See* MEUX.

Lameness may be due to some deformity of the leg, or to some disease of the structures of the leg. The commonest deformity of the leg which causes L. is the shortening that is likely to follow a fracture. Very many ingenious forms of *extension apparatus* have been invented to overcome the tendency to shortening. There are also various forms of congenital deformities, such as club-foot, which cause L. In young people disease of the joints causing L. is either tuberculous or acute rheumatoid arthritis. In tuberculous joints there is nearly always permanent L., for the spontaneous cure of the disease is often bony union in the joint, so that no movement is possible in that joint. The commonest example is *hip-disease*. In older people L. is often due to the various forms of chronic arthritis, and also to degenerative changes in the joints. Nervous disease may produce complete paralysis, or every degree of disturbance of the gait. A limp is often a deliberate gait adopted to avoid pain to some injured part. This group of limps includes all the minor and transient forms of L.

Lamennais, Hugues Félicité Robert de (1782-1854), a French abbé and philosophical writer, born at St. Malo, Brittany. His horror at the Revolution was occasioned less by his monarchic leanings than by his dismay at the overthrow of religion, and is expressed in his *Réflexions sur l'état de l'église en France pendant le 18ième siècle et sur sa situation actuelle*, published anonymously in 1808. At the commencement of the 'Hundred Days' he fled to London, where he fell under the influence of the Abbé Carron, who induced him to be ordained priest on his return to Paris. The first volume of his great work, *Essai sur l'indifférence en matière de religion* (1817), stirred all Europe in its violent denunciation of religious toleration. After the revolution of 1830 he founded, in conjunction with Montalembert and Lacordaire, the paper *L'Avenir*, with its motto 'Dieu et Liberté,' advocating an aggressive democracy. His appeal to the pope to support the paper against the Conservative bishops failed, and L. completely severed himself from the Church. His remarkable *Paroles d'un croyant* (1834) marked his [illegible] forward he [illegible] Democratic [illegible] opinions wh[illegible] held. At the revolution of 1848 he sat as a representative on the extreme Left in the Assembly, until the *coup d'état* of Napoleon III. in 1851 finally crushed his hopes for the sovereignty of the people. Among his later writings were: *Le Livre du Peuple*, 1837; *De l'Esclavage Moderne*, 1839; *Politique à l'Usage du Peuple*, 1839; *Le Pays et le Gouvernement*, 1840; *Une Voix de Prison*, 1840; *Esquisse de Philosophie*, 1840; *Le Deuil de la Pologne*, 1846; and his translation of *Les Evangiles*, 1846, and *Dante's La Divine Comédie*. Two so-called *Œuvres complètes de Lamennais* appeared in 1836 and 1844. *See* Sainte Beuve's *Portraits Contemporains*, 1846; A. Blaize's *Essai Biographique*, 1849; Mercier's *Lamennais*, 1894; Boutard's *Lamennais*, 1905.

Lamentations, The Book of, called in the Hebrew Bibles 'Echah,' from its first word, belongs to the group known as the Megilloth. It consists of five poetical laments dealing with the various calamities which the Judahites underwent after the capture of Jerusalem by the Chaldæans in 586 B.C. The first three dirges are alphabetical acrostics, containing each twenty-two verses. The fourth

is constructed on the same plan, but in this case the verses are arranged in groups of three, each having the same initial letter. There are thus sixty-six verses in all. The fifth lament, which takes the form of a prayer to Yahweh, is not acrostic, but contains the same number of verses as each of the first three. Late tradition ascribes the authorship of Lamentations to the prophet Jeremiah.

Lamettrie, Julien Offray de (1709-51), a French philosopher and physician, born at St. Malo. Abandoning theology for medicine, he was appointed surgeon in the French army (1742), but his materialistic study, *Histoire naturelle de l'âme* (1745), obliged him to seek refuge in Leyden, and later he settled in Berlin. He worked out his ideas more completely in *L'Homme machine*, and *L'Homme plante* (1748). In *La Volupté* and *L'Art de jouir* he maintained that the end of life can only be found by indulgence of the senses. Frederick the Great wrote a memoir, which is prefixed to the edition of 1774. *See* Lange's *Geschichte des Materialismus* (Eng. trans.), 1880, and the *Life* by Poritzky, 1900.

Lamia, in Greek mythology, a female phantom. Legend said that she was a queen of Libya beloved by Zeus, whose jealous wife, Hera, robbed L. of her children, in revenge for which the Libyan queen seized and killed every child she could find. In later Greek legend she was regarded as a female bogey, and so passed into Roman mythology where the Lamiæ were represented as demons in the form of beautiful women who enticed young men to their arms in order to feed on their blood. In this form L. is represented by Goethe in *Die Braut von Corinth*, and by Keats in *Lamia*. *See* Diodorus; Plutarch, *De Curiosis;* Lawson, *Modern Greek Folklore and Ancient Greek* [illegible] 1910; Abbott, *Macedonia* [illegible] 1903.

Lamia, or Zeitun, a tn. and cap. of Phthiotis, Greece, on the Gulf of Lamia. It is fortified and is also a bishop's see. The inhabitants are chiefly employed in rearing camels. Pop. 7500.

Lamia, L. Ælius (*d.* 33 A.D.), a Roman magistrate, being consul in 3 A.D. and prefect of Rome in 32 A.D. He was a friend of Horace who dedicated an ode to him (i. 26). *See* A. W. Verrall's *Studies in Horace*, 1884.

Lamigo (ancient *Lama*), a tn. in Beira, Portugal, 46 m. E. of Oporto. It contains Moorish remains and has a cathedral and bishop's palace. Pop. 11,500.

Lamination, a term in geology for a special formation in the beds of clay or shale strata, in which the bed is formed of thin layers or plates, called lamiæ, lying parallel to its plane and separating easily when exposed to the weather. They may be the result of separate layers of deposit being placed one on top of the other in successive periods, or they may be due to the pressure of the later deposits. *See* CLEAVAGE.

Lamium, the chief genus of Labiatæ, consists of about fifty species of Old World plants. Five of these are British, *e.g. L. album*, the white dead-nettle, which was formerly used medicinally; *L. amplexicaule*, the henbit, found in chalky and sandy soils; *L. purpureum*, the purple dead-nettle, which is also a native of Sweden.

Lammas Day, or The Feast of the Wheat Harvest, one of the oldest of church festivals, occurring on Aug. 1. The name is probably derived from the Anglo-Saxon *hlafmaesse*, or 'loaf mass'; it was customary to offer loaves of bread made from the fresh wheat.

Lammas Lands, lands which were enclosed during the growth of corn and grass, but open for pasture lands during the rest of the year. Upon Lammas Day (Aug. 12) the fences were taken down from the corn fields and on Old Midsummer Day (July 6) from grass fields.

Lammermoors, or Lammermuir Hills, a range of hills in Haddington and Berwickshire, Scotland, which extend in an E.N.E. direction from the vale of Gala Water to St. Abb's Head on the North Sea. The chief summit, Lammer Law, reaches a height of 1733 ft.

Lamont, Johann von (1805-79), a Scottish-German astronomer and magnetician, born at Braemar, Aberdeenshire. He was sent to be edu- [illegible] Scottish monastery in [illegible] and never returned to [illegible] 1827 he was sent to the observatory at Bogenhausen, near Munich, [illegible] J. Soldi [illegible] establis [illegible] there in [illegible] hensive [illegible] France, [illegible] mark (... which were published in three volumes (1854-59). He announced the discovery of a magnetic decennial period in 1850, and his discovery of earth currents in 1862, of which his *Handbuch des Erdmagnetismus* (1849) is the standard text-book. He was appointed professor of astronomy at the University of Munich in 1852, and prepared his eleven zone catalogues of 34,674 stars (1866-74).

Lamoricière, Christophe Léon Louis Juchault de (1806-65), a French general and politician, born at Nantes. He entered the Engineers in 1828, and served through the Algerian campaigns from 1830-47, becoming *maréchal-de-camp* in 1840. He distinguished himself at Isly (1844), and effected the capture of Abd-el-Kader in 1847. He took part in the political events of 1848, and was Minister of War under Cavaignac. L. was a leading opponent of Louis Napoleon, who exiled him in 1851. In 1860 he accepted the command of the Papal army, but was completely defeated by the Italians at Castelfidardo. His sentence of exile was revoked in 1857, and he died in retirement near Amiens. *See* E. Keller, *Le Général de Lamoricière*, 1873, and Flornoy's *Lamoricière*, 1903.

La Motte, Antoine Houdar de (1672-1731), a French poet and dramatist, born in Paris. His first comedy, *Les Originaux* (1693) was a failure, and he contemplated entering a monastery, but the success of his ballet, *L'Europe Galante* (1697), led to a series of successful operas and tragedies, of which the most famous is *Inès de Castro* (1723). Other works are a verse translation of the *Iliad* (1714), founded on Madame Dacier's translation, 1699; *Réflexions sur la Critique*, 1715; *Fables*, 1719; *Odes*, 1707. His *Œuvres* (10 vols.) appeared in 1754. *See* P. Dupont, *Un Poëte Philosophe*, 18[illegible]

La Motte Fouqué, *see* Fouqué, Friedrich Heinrich Karl de La Motte.

Lamoureux, Charles (1834-99), a French violinist and conductor, born at Bordeaux. He became first conductor of the Opera at Paris (1878), and introduced the work of Wagner and other modern composers to that city. In 1881 he inaugurated the *Nouveaux Concerts*, better known as *Concerts Lamoureux*, in continuation of the work begun by Colonne.

Lamouroux, Jean Vincent Felix (1779-1825), a French naturalist, born at Agen in Guienne. In 1809 he was appointed to the professorship of natural history at Caen, where he wrote his *Histoire des Polypiers Coralligènes flexibles*, published in 1809. His works include a *Dictionary of Zoophytes*, 1824.

Lampblack, a black pigment consisting of finely-divided carbon, and obtained by the incomplete combustion of carbonaceous compounds, the finest L. being obtained in the distillation of coal-tar. It is used mainly in the manufacture of printing-ink and as a pigment for oil-painting.

Lampedusa, an island in the Mediterranean Sea, situated between Malta and the African coast, and belonging to the prov. of Girgenti, Italy. It is 7 m. long, and 2 m. wide, with an area of 11½ sq. m. It has a good harbour for small boats and torpedoes. An Italian penal colony is here. Pop. 2000.

Lampeter, or Lampeter Pont Stephen, a municipal bor. and assize tn. of Cardiganshire, Wales, situated on the R. Teifi. The name 'Pont Stephen' is derived from an ancient stone bridge over the river, which was constructed for King Stephen. St. David's College (1822-27) is a university affiliated to the universities of Oxford and Cambridge. Pop. 2500.

Lamport and Holt Line, a steamship line founded in 1865. It is one of the largest lines in the world, the company owning forty-six vessels with a gross tonnage of 309,382 tons. The head office is at Liverpool, and the steamers ply between the chief ports of England, including London, and those of S. America; but New York is also visited. The boats are fitted up to carry passengers, but they are mainly used for the transport of cattle and cargo. The *Vauban*, built in 1912, with a gross tonnage of 10,421 tons, a speed of 15 knots, and dimensions 495 by 60 by 28 ft., is the largest.

Lamprey, or *Petromyzon*, an animal which is often regarded as a fish, but which in fact differs from the true [illegible] paired fins, [illegible]nce of the [illegible]ction, and [illegible] as well as several marked internal differences. The L. and the hag (*q.v.*), to which it is closely allied, are in consequence placed in a class by themselves, known, on account of their round mouths, as *Cyclostomata*. There are three British species, the sea L. (*Petromyzon marinus*), a mottled greenish brown in colour, and over 3 ft. long; the river L., or more often lampern, of two varieties (*P. fluviatilis* and *P. planeri*) much smaller. All the varieties are alike in their slimy skins and eel-like forms with seven pairs of gill-pockets connected internally by a tube and a piston-like tongue. They feed on small animals and the dead bodies of larger ones, but will often fix themselves to living ones, and feed themselves by scraping holes in the skin. They were long regarded as a palatable article of food.

Lamps have from early times been used for illumination indoors, just as torches and lanterns were used in the streets. The word 'lamp' is derived from the Greek λαμπάς, a torch, which, in its turn, is connected with λάμπειν, to shine. Among civilised nations gas and electricity are fast

replacing oil as a means for lighting, even in country districts, so that L. are no longer an essential feature of domestic furniture. People, moreover, do not now lavish artistic workmanship on household utensils in daily use. This article, therefore, will be devoted to Greek and Roman L., which are of interest as works of art besides as antiquities.

A very primitive bronze L., found at Enkomi in Cyprus and belonging to the prehistoric age known as the Mycenean, would seem to refute Athenæus' assertion that λύχνοι (lamps) were a comparatively recent invention. Yet they did not come into common use till the 4th century B.C., and undoubtedly most of the specimens, which have come down to us, belong to the Græco-Roman period. The L. supplied to the humbler citizens were made of clay or terra-cotta. Bronze was used for better class of work. Excavations in Pozzuoli, Roman sarcophagi, and in Roman settlements of Britain, have yielded L. of bright green enamel, many of them iridescent, whilst one of yellow enamel was found at Cyprus. The L. wrought about 400 B.C. by the sculptor, Callimachus, for the Erechtheum of Athens was of gold. But this was clearly exceptional, as much for the metal as for the beauty of its design. In size there is considerable variation. Thus the L. preserved in the British Museum vary from 1⅛ to 11⅛ in. in height, whilst the length or diameter ranges from 4 to 13½ in. Normally the height is from 3 to 7 in., the length being somewhat more.

It is at least likely that the Greeks borrowed the shape of their L. from the Egyptians, for the L. of Egypt are substantially the s those of later Hellas. The ty consists of a spheroid body, the well for the oil, a spout or nozzle (μυκτήρ), an opening to receive the wick (θρυαλλίς), and a round hole, through which to pour the oil. The round hole is on the upper surface, surrounded by a circular space; opposite the spout, which is a projection from one side of the round body, is the handle, usually ring-shaped so as to receive the fore-finger and with a palmette or some other spreading design on top to give support to the thumb. The Greeks also adopted or discovered a beautiful type of pendant L. This was supported by chains fixed at opposite ends of a diameter of the well, which was fashioned like a shallow basin. A small flat stand was usually attached to the base to correspond with the under surfaces of the clay Ls., which were invariably flattened to allow of their being set on a table. But the above are only types, and the few illustrations that have lasted to our day afford ample proof that the Greek craftsmen were far too ingenious and artistic merely to reproduce year in and year out the same patterns. And the same holds good of the Roman artificers, who carried on the traditions of their predecessors. Sometimes the nozzles were multiplied to two, seven, or even sixteen, and were skilfully contrived so as to have a place in the general scheme of design. There are L. in existence in the form of a dog curled up, a captured deer, an elephant, a ram's and a greyhound's head, and a snail shell. Others represent the head of Pan, grotesque heads, or the heads of negroes. One is shaped like a fir-cone, another like a knight on horseback, and a third like Selene with her bull-drawn chariot. All kinds of places are found for the hole leading to the oil well, as, for instance, the top of the figure's head, or the mouth of the cup which some devotee of Bacchus holds before him. A favourite ornament was the figure of a god or goddess, like Zeus or Demeter, or of a mythological hero like Hercules. An exquisite bronze L., found in the Thermæ of Julian at Paris, gives an excellent idea of the standard of domestic art to which the ancients arrived. It may be seen in the British Museum, but a bare description is here appended. Spouts, decorated underneath with heads of satyrs, project gracefully at either side of the main bowl. Springing out from the bowl in front and behind are vigorously-carved lions. In place of the usual chains are two dolphins, whose heads rest, one on each spout and set in mid air above the A single chain attached tails served to suspend the L. A very elaborate and beautiful Etruscan L., believed to date back to the 5th century B.C., was found in 1840 at Cortona. On the under surface is the head of Medusa, whilst the sixteen spouts are decorated alternately with a satyr and a siren, and between them are masks of river gods.

One or two interesting customs, which the old Greeks and Romans observed in connection with Ls., have been handed down to us by Pausanias and others. Men used to honour their dead by placing lighted L. with incense on their tombs. A New Year's gift sometimes took the form of a L. A favourite device for such a present was that of two Victories holding a tablet bearing the motto 'ANNV NOV FAVSTV FELIX.' L., moreover, seem to have played a part in religious ceremonial. Thus there were bronze L.

hanging from the marble altar in front of Hermes' statue in the market-place of Pharæ in Achaia. Whenever a believer came by night to consult this oracle, the first step in his ritual was to light the L. that he might see the object of his prayer.

L., little different from those described above, are still used in Palestine, Persia, and other countries of the East. In mediæval times cathedrals and castles were often illuminated by highly-decorated hanging L., iron being a favourite material. In the early days of Christendom the monogram of Christ was a common motive for decoration.

Lampsacus, an ancient Greek colony in Mysia, Asia Minor, on the Hellespont and opposite the modern Gallipoli. The modern village of Lapsaki probably stands near its site.

Lamp-Shell, a genus of Brachiopods.

Lampyris, *see* GLOW-WORM.

Lamu: 1. An island off the coast of E. Africa in lat. 2° 15′ S., included in the protectorate of British E. Africa. A strait 6¼ m. long and 3 m. broad separates it from the island Manda on the E., a narrower channel separating it from the mainland. Pop. 15,000. 2. A tn. and port opposite Manda, on the eastern shore of the mainland. It is the headquarters of the administration for Wita district, *and has steamboat communication* with Europe and India. Pop. 8000.

Lanark, a royal, municipal, and police burgh, and co. tn. of Lanarkshire, Scotland, situated on high ground near the r. b. of the Clyde, 31 m. S.E. of Glasgow by rail. It is a famous holiday haunt on account of the Falls of Clyde, and its historical association with William Wallace. The chief industries are [illegible] and wincey [illegible] there are [illegible] markets. Pop. (1911) 5900.

Lanark, New, 1¼ m. S.W. of Lanark, was founded by David Dale and Richard Arkwright in 1785 as a cotton-spinning centre. Robert Owen, *the social reformer*, was manager of the mill from 1799-1828. Pop. 795.

Lanarkshire, a S.W. inland co. of Scotland, bounded N. by Dumbartonshire and Stirlingshire. The shire is divided into three wards, the Upper, [illegible] ıd includes more [illegible] the Middle, and [illegible] atest elevations are to be found in the S., Culter Fell (2454 ft.) being the highest on the borders, and in L. itself Green Lowther (2403 ft.). The valley of the Clyde (Clydesdale) runs through the county, and the surface slopes gradually from the heights in the S. to the Firth of Clyde in the N.; the Clyde with its numerous tributaries, of which the chief are the Medwin, Mouse, Calder, and Kelvin on the right, and the Douglas, Nethan, and Avon on the left, drains the county. There are a few lochs in the N., but they are unimportant, and the Falls of the Clyde at Bonnington, Corra, Dundoff, and Stonebyres are the most famous features in the scenery. Grain is not grown very largely, oats being the main crop, but cattle and sheep are reared extensively, also pigs, and a fine breed of of draught horses known as Clydesdales. Dairy farming is productive, especially certain kinds of cheese, and fruit-farming is carried on in the Clyde valley, strawberries being grown in great quantities. In the N. market-gardening flourishes, a considerable amount of glass being in use. The main industries are the coal and iron fields, of which Glasgow forms the centre; shipbuilding at Glasgow, Govan, and Partick; cotton, woollen, and linen manufacture at Glasgow, Rutherglen, Hamilton, Lanark, etc.; engineering at Coatbridge, Kinning Park, Wishaw, etc. The canals include the Monkland Canal in the N., and the Forth and Clyde Canal in the N. and N.W. The county is divided into six parliamentary divisions, each returning *one member, and there are three* royal burghs, Glasgow, Lanark, and Rutherglen. The county has been the scene of some stirring historical events, Wallace being one of its chief heroes, while Mary Queen of Scots was defeated at Langside in 1568, and Claverhouse was defeated at Drumclog in 1679 by the Covenanters, who in their turn were defeated at Bothwell [illegible] he same year; it also contains [illegible] others the castles of Both- [illegible] nd Douglas. The area is 879 sq. m. Pop. 1,447,113 – the most populous county in Scotland. *See* C. V. Irving and A. Murray, *The Upper Ward of Lanarkshire* (Glasgow, 1864), and W. A. Cowan, *History of Lanark* (Glasgow, 1893).

Lancashire, a maritime co. in the N.W. of England, bordering on the Irish Sea. The coast-line, though flat, with fine stretches of sand, is broken by inlets, of which the largest are Morecambe Bay and the estuaries of the three rivers, the Duddon, the Ribble, and the Mersey. Morecambe Bay also divides the district of Furness with the island of Walney from the rest of the county. There are many popular seaside resorts on this coast, the chief of which are Blackpool and Southport. The most important rivers are the Mersey, into which flow the Irwell and Sankey, and the Ribble, rising in Yorkshire and flow-

ing down to Preston, into which flow the Hodder, Calder, and Darwen. The surface of the county is varied, the N. being hilly, except near the coast, and including part of the beautiful Lake District, Coniston and part of Windermere being in L. The E. boundary is also hilly, taking in part of what is known as the Pennine uplands, the highest point being Blackstone Edge (1323 ft.). In the S. there are some beautiful stretches of moorland, and along the coast and the R. Mersey there is a plain, once peat mosses, but now partly reclaimed; the largest of these is Chat Moss (*q.v.*), between Liverpool and Manchester. L. contains one of the largest of England's coalfields, and in its area are included all the big cotton manufacturing towns, Manchester, Burnley, Blackburn, Wigan, Bolton, Preston, etc. Fire clay, sandstone, limestone, slate, particularly a fine blue slate, and salt are quarried, the latter being also found in the brine. In Furness red hematitic iron is found. Cattle are reared in considerable numbers, cows being kept to supply the large demand for milk, and the hill pasturage is good for sheep; oats and wheat are the chief crops. L. is the centre of the cotton trade for the world, and over 400,000 hands are employed in this manufacture. The industry dates fr
1641, though it is not until 1
that we find steam first used at
mills in Manchester, the centre of the trade, and a rapid development followed. There is a large manufacture of all implements and machines used for the weaving; iron and steel are manufactured at Barrow-in-Furness, there are glass works at St. Helens, watch-making at Preston, and leather works at Warrington. L. contains the great seaport of Liverpool, with its vast shipping trade, and the lesser ports of Manchester, connected with the sea by means of the Manchester Ship Canal (1894), Barrow-in-Furness, and Fleetwood, with its steamship service to Belfast. The county is served by the London and North-Western Railway and all the northern trunk lines, besides a number of local lines. The Bridgewater Canal is an important means of communication. The county is one of the counties palatine, and is part of the duchy of Lancaster, the office of Chancellor of the Duchy and County Palatine dating back to 1351. It is divided into six hundreds, and returns twenty-three members to parliament. At different times L. has played an important part in history; it contains some fine ruins and ancient churches, and is famed for the number of its old county families. The area is 1887 sq. m. Pop. (1911) 4,805,739. See
V
ar
Fishwick, 1894.

Lancashire and Yorkshire Railway was incorporated in 1847 by an amalgamation of a number of local lines in Lancashire and the W. Riding of Yorkshire. The main line extends from Manchester through Rochdale, and there
Halifax,
Another
connects
Manchester with Liverpool, Southport, and various towns in the S. of Lancashire. The company also owns steamers which ply between Liverpool and Drogheda, and Goole or Hull, and Amsterdam and Copenhagen.

Lancaster: 1. The cap. of Lancashire, England, on the l. b. of the R. Lune, 7 m. from its mouth, 20 m. N. by W. of Preston. Its first charter was granted by John in 1193. The old castle, of Roman and Saxon origin, which was restored by John of Gaunt, is now used as the county gaol. It manufs. china, machinery, cotton, and silk. Pop. (1911) 41,414. 2. The co. seat of Lancaster co., Pennsylvania, U.S.A., on the Conestoga R., 69 m. W. of Philadelphia. It is a busy industrial town, with large tobacco warehouses,
nneries, iron
,227. 3. The
Ohio, U.S.A.,
on the Hocking R., 31 m. S.E. of Columbus. It has machine and railway shops, and manufs. of shoes, glass, and agricultural implements. Pop. (1910) 13,093.

Lancaster, a British armoured cruiser of the *County* class, 9800 tons, 23 knots, launched at Newcastle in 1902.

Lancaster, House and Duchy of. The house of Lancaster originated in the second son of Henry III., Edmund Crouchback, who was created Earl of Lancaster and Leicester in 1267. The duchy of Lancaster was created by royal charter in 1362, when John of Gaunt, who had married Blanche, the sole heiress of the Lancastrian estate, was made Duke of Lancaster, in default of male heirs. Their son, Henry, seized the throne from Richard, and reigned from 1399 to 1413, and was succeeded by Henry V. (1413-22). During the reign of Henry VI. (1422-61 and 1470-71), the War of the Roses broke out, in which the Lancastrians were opposed by the house of York, descended from Lionel, Duke of Clarence, elder brother of John of Gaunt. The duchy of Lancaster was annexed to the crown by Edward IV. in 1461, but up to the present time the revenues are held separately from the

hereditary revenues of the crown. Formerly, the Chancery Court of the County Palatine was held at Preston and the Duchy Court at Westminster, but since 1873 the administration of justice has been assimilated to that of the rest of England. The office of chancellor of the duchy, being a political appointment, is generally held by a member of the cabinet, and the stipend is £2000 per annum. The present chancellor is the Rt. Hon. C. E. Hobhouse, M.P. *See* Gairdner's *The Houses of Lancaster and York*, 1886, and Stubbs' *Constitutional History* (5th ed.), 1895.

Lancaster, Sir James (*d.* 1618), an English navigator and statesman, first sailed in a disastrous expedition to the East Indies in 1591. Lancaster Sound, a channel 50 m. wide in the Arctic regions, leading from Baffin Bay, between N. Devon and Cockburn Land, and continued W. by Barrow Strait, was named after him by Baffin on account of L.'s voyages in search of the N.W. Passage. See *Voyages of Lancaster*, ed. by Sir Clements Markham for the Hakluyt Society (1877).

Lance, George (1802-64), an English painter, born at Little Easton, Essex. He studied under Haydon, confining himself to historical art, but discovering where his real bent lay by the copy of a group of fruit merely as a study of colour, he afterwards devoted himself entirely to still life and fruit studies; several of which are in the National Gallery and Tate Gallery.

Lancelot du Lac, the famous knight of the Round Table, and secret lover of Queen Guinevere. He was the son of King Ban of Benoic and Queen Helaine, who were driven out of their kingdom by Claudas. Lancelot was brought up at the court of a water-fairy, the Lady of the Lake, and when he reached years of manhood he offered his services to King Arthur, who made him a knight. His love for Guinevere was disclosed to Arthur by the sons of Lot, and at the end of the ensuing war he retired to a monastery. He was, by Elaine, the father of Sir Galahad. The story of Lancelot bel[illegible] of the Arthu[illegible] of the prose [illegible] and Dutch trans. by [illegible] *Roman van Lancelod*, [illegible] (ed. Hahn), 1845; and [illegible] *The Legend of Sir La[illegible]* (vol. xii. of Grimm Lit[illegible]

Lancet, The, a leading British medical journal, founded in 1823 by a surgeon named Thomas Wakley, who used it to attack the gross abuses then existing in the administration of hospitals. Wakley was assisted by Cobbet, Wardrop, Sir William Lawrence, and Dr. Arthur Hill Hassall, and was succeeded as editor [illegible]

[illegible]

Lancewood, a straight-grained wood of great strength and flexibility. The wood is obtained from two trees belonging to the order Anonaceæ, the black L., which is used mainly by coachbuilders for the shafts of traps, being obtained from the *Guatteria virgata* of Guiana and the West Indies, and the yellow L. (*Duguetia quitarensis*) also found in Guiana, and used by the Indians for arrow-heads.

Lan-chan-fu, or Lan Tcheu, a tn. of Western China, and the official cap. of the prov. of Kansu, situated on the Yellow River. It is a great trading centre; the chief manuf. is cannon founding, and there is a European factory for the manufacture of coarse materials from sheep's wool and camel's hair. Coal is mined in the vicinity. Pop. 100,000.

Lanchester, a par. and tn. of Durham, England. In the neighbourhood are remains of a Roman station, and Roman relics have been found. The town, situated near Durham, is industrial, and contains coal mines, steam saw-mills, and timber yards. Pop. (1911) 4600.

Lanciano, a tn. in the prov. of Chieti, Italy, is 13 m. S.E. of Chieti. It is the old Anxanum, and contains Roman remains and a cathedral. It manufs. linen and hemp, and trades in country produce. Pop. (com.) 18,500.

Lancing College, a boy's public school near Shoreham, Sussex, was founded in 1848 by the Rev. Canon Woodard in connection with an educational scheme in Sussex which embraces the schools of Hurstpierpoint and Ardingley.

Land, as the ultimate source of all wealth, has necessarily, throughout all time, been the most coveted kind of property. It has the characteristic of immovability which no other species of property possesses, and with the guarantee of state protec[illegible]n for all individual rights affords owners an element of security and [illegible]rmanence in their proprietary estate [illegible] And the more [illegible] increase the pro[illegible]., and the further [illegible]tivation is pushed [illegible] and enterprise beyond its old limits, the keener becomes the desire to hold it. Conversely the further back the history of L. is traced the less valuable will it appear to have been to those who occupied it, more especially seeing that in primeval times there was ample for all. *A priori* reasoning

leads us to infer that in the tribal era of the history of mankind a small population eked out a scanty living from immeasurable tracts of L. The whole history of man is that of the subordination of crude nature to human art, and it is clear from such records as are extant (chiefly Cæsar and Tacitus) of the manners of tribal organisations that these quickly learnt the value of such L. as was capable of producing natural food for their subsistence. Even with tribes whose sole occupation was the chase, we see the germ of territorial property in the defence of hard-won L. against hostile aggression by less fortunate adventurers. In the pastoral era that germ
tenure of the
more civilised
isation of which is to be found even at the present day, especially among Slavonic and Hindu peoples. In general the common field system of cultivation obtained as the most advantageous system of husbandry, *i.e.* the system by which fields were divided into three narrow strips, owned in severalty but cultivated by co-operation.

At first both the arable and pasture Ls. remained the joint property of the community, and in an ideal state when those appointed to cultivate the L. or tend the cattle were respectively best fitted for those purposes, and were willing to perform the duties for the general behoof, the need for private ownership was not felt. The change comes with the apportionment of the arable L. among the households comprising the village, while the pasture, woods, and forests remain common property, though the principle of joint ownership survives in the system of cultivation of crops by rotation, the Ls. apportioned for culture lying fallow for a succession of years, other Ls. being assigned by the village rulers for cultivation. This inchoate principle of private property becomes definite as soon as L. is appropriated permanently to separate families, the less fortunate or more idle villagers being relegated to the waste Ls., or forced to labour for the landowners. From this appropriation springs all wealth, and the very notion of money, which in the Latin word *pecunia* is cognate with *pecus*, cattle (*see* on this Pollock and Maitland's *History of English Law down to the 13th Century*). The general result of this course of evolution, wher[illegible] not
beco[illegible] is
the [illegible]ge
landed estates to become concentrated in the hands of a few powerful families, and, indeed, for most of the rest of the L. composing any particular nation to fall into the hands of comparatively few of the people, with the consequence that governmental powers fall naturally to the owners of L., and the very qualifications for office are based upon the possession of a certain amount of L. It is then that legislation becomes necessary to regulate ownership or tenure of L., and whether we are dealing with the agrarian reforms of the Gracchi or the fiscal proposals of Mr. Lloyd George, it is not difficult to appreciate why laws relating to L. must almost inevitably be at the same time laws that vitally affect the very polity and constitution of the state, and inevitably rouse the angriest passions. It is not, however, to be assumed that the same course of evolution is traceable in the history of the L. of all existing nations, though there may well be certain fundamental similarities in the earliest stages. But unquestionably feudalism lies at the root of L. tenure in most European nations, although in practically every case nothing but faint traces still remain, *e.g.* in Scotland where the Scots L. law still speaks of *feu duties* being payable by a *vassal* to his *superior* or *lord*, while in England we still speak of a lord of the manor. (For the relation between the Roman tenure of L. and continental feudalism, *see under* LAND LAWS.) The break-up of feudalism may be *said* to have begun from the time knight service became commuted for a money rent, and practically completed when terms of years or leases were granted by landowners; for these were indi[illegible]
cations of [illegible]
of profit–[illegible]
opposed t[illegible]
tion.' Th[illegible]
L. during
struggle between feudal overlords and their tenants, the former endeavouring to exact to the letter all the aids, reliefs, and other burdens imposed on the tenants by the L. laws, the [illegible] beginning to evade all such [illegible] and con[illegible] into private [illegible]ense of that [illegible]ch was partly [illegible]vices of con[illegible] the common law rules as to tenure, and partly through alienations in mortmain (*q.v.*), and the doctrine of uses and trusts (*see* EQUITY). The idea that L. in England was merely *held* or loaned of a superior lord on certain conditions practically received its death-blow by the rule of primogeniture—at first a mere corollary of feudalism—and the judicial interpretation of words of grant (*see* DE

DONIS). The later concession that L. might be disposed of by will completed the conception of a tenure of L. as a species of private property. (As to the effect of marriage settlements, and wills customarily made in the manner of settlements, in keeping estates in the hands of wealthy families, *see under* LAND LAWS and ENTAIL.)

In France there is a system of petty entails in vogue which, taken with the conformity of landowners to the spirit of the rule of succession of all the issue equally, results in the existence of a great number of private estates of no great size; whereas in England the effect of primogeniture and settlements made conformably to that doctrine is to lead to the aggregation of huge landed estates in the hands of comparatively few.

Both in U.S.A. and Ireland there have been, especially in the late Victorian era and recently (1913), suggestions put forward with a view of remedying the real or supposed evils of private ownership in L. The propositions generally urged are: (1) To abolish entails and primogeniture and other legal difficulties in the way of sales. The Land Transfer Act (*see* LAND LAW) has done something to lessen expense. (2) To legalise and extend tenant-right (*see under* LAND LAWS). (3) To establish tribunals of arbitration to decide upon appeal as to the rent to be paid (*see* CROFTERS and under LAND LAWS as to tenant-right). (4) To have the state buy out the landlords and either sell again to the tenants, or itself remain the landlord. (As to taxation of L. values as a step to nationalisation of L., the expenses of nationalisation, and the extent to which state ownership and control actually prevail, *see under* LAND LAWS.)

Bibliography.—Maine, *Village Communities*; Jenks, *History of Politics* (Dent & Sons).

Landau, a tn. in the Rhenish Palatinate, Bavaria, Germany, 17 m. S.W. of Spires. It has ancient his-

[illegible] ...nded in the ... do an im... ...t played an ...irty Years' ... possession ... d the forti-

fications in 1871. It is a trading centre, has iron foundries, and manufs. machinery. Pop. 17,761.

Landaur, a cantonment and sanatorium in the Dehra Dun dist. of the United Provinces, India, 75 m. E. of Umballa. Alt. 7459 ft. Pop. 4000.

Land Commissioners. On the passing of the Tithe Act, 1836, commissioners were appointed to administer its provisions, and when the Copyhold Act, 1841, was passed, the tithe commissioners were entrusted with the duty of administering that Act as well. When later additional duties, relating to the enclosure of commons and land drainage, devolved upon them, they became styled tithe, copyhold, or enclosure commissioners according to the particular functions they happened to be exercising at the moment. On the passing of the Settled Land Act, 1882 (*see under* LAND LAWS), they received the name of Land Commissioners for England. Finally, in 1889, the commission became merged in the Board of Agriculture. *See* Odger's *Local Government*.

Land-crab, the popular name given to the species of Gecarcinidæ, a family of malacostræan crustaceans which only occasionally visit the sea or fresh waters. They have a square, convex carapace and moderately large eyes. The species of *Uca* are found in the mangrove swamps of S. America, and those of *Gecarcinus* inhabit the forests of the West Indies.

Landeck, a watering-place of Prussia in Silesia, situated on the Biele, 54 m. S. of Breslau, near the Austrian border. It is noted for its warm sulphur springs, which are visited by about 10,000 people yearly. The manuf. of gloves is carried on. Pop. 3337.

Landed Estates Court, an Irish court created in 1858 in succession to the Encumbered Estates Court, for the purpose of deciding questions relating to the investigation of title to land, ascertaining, allowing, and settling the priority of incumbrances and charges on land, and generally declaring the rights of all persons in any land in respect of which application is made to the court. The court has power to invest the proceeds of sale of land for the benefit of parties where the judge thinks that the legal proceedings are likely to be protracted. Where any money arising

[illegible]

cretion to order the money to be paid into the Court of Chancery, there to abide the orders of that court. Under the Landlord and Tenant (Ireland) Act, 1870, the L. E. C., on sale of estates, must, so far as consistent with the interests of the persons entitled to the estates or proceeds, afford all reasonable facilities to occupying tenants to purchase their holdings.

Lander, Richard Lemon (1804-34), an English explorer, born at Truro, Cornwall. In 1825 he accompanied Hugh Clapperton on his second expedition to W. Africa, and was with his leader at his death at Sokoto (1829), publishing Clapperton's jour-

nal in 1829, with additions of his own *as Journal of Richard Lander from Kano to the Coast*, followed by *Records of Captain Clapperton's Last Expedition to Africa* (1830). In 1830 L. was sent, with his brother John (1807-39), by the British government to explore the lower course of the Niger, an account of which they published in 1832 as *Journal of an Expedition to Explore the Niger*. During a second expedition to the Niger in 1834 L. was killed by natives.

Landerneau, a seaport tn. of France in the dept. of Finistère and the arron. of, and 12 m. E.N.E. of, Brest. There are important manufs. of clothing, linen, leather, etc. It has a 16th-century Gothic church, convent, and marine barracks. Pop. (com.) 22,700.

Landes, a maritime dept. of South-Western France, bounded on the W. by the Bay of Biscay. It is divided into two parts by the R. Adour; the portion to the N. includes three-fifths of the dept., and is composed of tracts of heath and sand, interspersed with forests of pines and cork trees and numerous marshes, which are being gradually drained into the shallow lagoons which fringe the sea-coast; the southern part is hilly and covered with oak plantations, and vineyards which annually produce about 10,000 gallons of wine. The mining of iron ore and bituminous coal is an important industry. There are mineral springs at Dax, and rock salt is obtained there and at Lescourre. There are three arrondissements, Mont-de-Marsan (the capital), St. Sever, and Dax. Area 3615 sq. m. Pop. 294,000.

Landeshut, or Landshut, a tn. of Prussia in Silesia, on the Bober, at the base of the Riesen-Gebirge, 30 m. S.W. of Liegnitz. There are manufs. of linens and cotton goods. Pop. 13,573.

Land for Military Purposes. Under various statutes the crown has power to interfere with a landowner's rights, or acquire his land by compulsory purchase for purposes relating to military administration. There are a number of provisions to be found in the Military Forces Localisation Act, 1872; Ranges Act, 1891; Military Lands Acts, 1892, 1900; and the Military Manœuvres Act, 1907, for the purchase of land for ranges, for volunteers, military manœuvres, barracks, or otherwise for the localisation of the military forces, and generally for military purposes. There are ancillary provisions in these Acts authorising the taking, closing, or diversion of highways, the making of bye-laws relative to practice ranges, and the assessment of compensation for damage done in the course of military [illegible] Secretary of [illegible] ver, under the [illegible], 1887, to pur- tramways (as to acquisition of land in case of invasion, *see under* DEFENCE ACT, 1842). The procedure for the acquisition of land and the mode of assessment and payment of compensation is for the most part to be found in the Defence Act, 1842. Generally speaking, assessment is either by jury or two justices, but in the case of land acquired under any Act which *incorporates* the Lands Clauses Acts (*q.v.*), the authority acquiring the land may require the assessment to be settled not by jury but by arbitration. *See also* under LAND LAWS as to compensation for 'injurious affection.'

Landgrave, or Count (Ger. *Land*, country, and *Graf*, count), a German title of nobility corresponding to a duke in England and a count in France. It was originally adopted by some counts, several of them of royal rank, in the 12th century to distinguish themselves from inferior counts under their jurisdiction. At the break up of the Holy Roman empire the Ls. assumed independent sovereignty. The title is now rare, most of the landgraviates having been incorporated in the Prussian empire.

Landi, Gasparo (1756–1820), an Italian painter, born at Piacenza. He studied under Pompeo Batoni and Corvi, and was the founder of the modern Italian school. He was president of St. Luke's Academy, Rome, and in 1781 was awarded the first prize at the Academy, Parma. His best known pictures are: 'The Ascent to Calvary,' 'The Maries at the Tomb,' and 'The Burial of the Virgin.' He died in Rome.

Land Laws. In no respect does the peculiar genius of a powerful nation manifest itself so much as in its L. L. Land in relation to the notion of proprietorship stands upon so different a footing from all other kinds of property [illegible] fundamental diversities in the L. [illegible] periods [illegible] existed. [illegible] ception [illegible] right of [illegible] whose rights of user are conditioned solely by the prohibition of injuring others in exercising them, or of an eldest son under a strict settlement whose rights are hardly inferior, would have astonished a Roman aristocrat. Yet in the later period of the Roman system it is possible to see in the emphyteutic tenure by which the proprietor alienated all his rights, except the bare ownership, for a

long term in consideration of a yearly rent (*pensio*), not only an approximation to the English long leasehold but the link between the Roman and the feudal systems of land holding (*see also* Maine, *Ancient Law*, ch. viii.), which latter lies at the root of the whole English L. L. In the earliest times the arable lands of the Romans were cultivated in common by the several clans, each clan distributing its produce among the several households belonging to it (Mommsen). This was a system essentially fitted to an agricultural community where wealth was measured not in terms of money or rent, but in cattle and the usufruct of the soil. The constitution itself was based on clanship and this communal system of husbandry, but even before the Servian constitution this system had yielded to a process of distribution of land by which estates were for the most part no larger than could be farmed by a paterfamilias aided by his sons and slaves (generally about 20 *jugera* or 12½ acres). Mommsen says that it was left to custom and the sound sense of the population to prevent the excessive subdivision, and it is probable that in the ordinary case landed estates remained entire in the possession of co-heirs, notwithstanding the absence of legal restrictions on free divisibility. There were, it seems, even a number of small cottagers and gardener proprietors. Ground under pasture during this the earliest period was state-owned, though the privilege of user was confined to the citizen. Such public land, however, formed but a small proportion to the arable land. The strength of the early Romans consisted in the very fact that they merged each conquered tribe entirely into the Roman husbandmen, and thus increased the total number of *adsidui*, or 'freeholders,' for as Mommsen says, 'none has equalled the Roman in thus making the ground he had won his own by the sweat of his brow, and in securing by the ploughshare what had been gained by the lance.' But side by side with these smaller farms there existed somewhat later in the regal period the *latifundia*, or broad acres, of the Roman patricians, though exactly how and when they were formed is a matter lost in obscurity. It was from the great Roman landlords that the Roman nobility sprang, much as the territorial aristocracy of England was evolved. At first, however, the great Roman landlords and senators, among whom had been distributed the clan lands, were literally 'fathers from the fields which they parcelled out among the common people as a father among his children.' There was then a close relationship between the great owner and the farmers or cultivators, and the evils of the middle-man and the absentee landlord were then unknown. Such Utopian states seem doomed to early dissolution in all progressive communities, and it was not long before the *latifundia* became cultivated by slave-gangs under bailiffs who were themselves slaves or freedmen. This system, according to Maine, soon gave way with some proprietors to that of the emphyteusis by which the land was leased in perpetuity to a free tenant at a fixed rent. The slave-gangs of other proprietors became the *coloni* of a later day, and have, it seems, some analogy to, even if they are not the ancestors of, the *métayer* tenantry of the S. of Europe. The fundamental distinction between the older Roman individual ownership by a senatorial father of the people and the landholding aristocrat of later times was, that the former was sole owner, though his 'tenants on sufferance' had *de facto* rights and privileges of no mean order (most of these, indeed, furnished the material for the Roman policy of colonisation); while the latter was based upon the leading characteristic of both the feudal system and the L. L. founded upon that system of *double ownership*, the tenant being treated as a true proprietor so long as he pays the quit-rent to the granter of his lease, while the reversionary ownership of the granter is kept alive by a power of re-entry on non-payment of rent. This double ownership was essential to the feudal system wherever it obtained, and at all its periods of development, whether the rent or *redditus* (*reddo*, to give back) was returned in the form of money or personal services, as by knight service (*see under* KNIGHTHOOD), or by agricultural services as in socage tenure (*see also* GRAND SERJEANTRY and HERIOT). In England at the time of the Conqueror, the feudal system of L. L. may be said to have allowed of a treble ownership; the double owner- [illegible] is vassal [illegible] over- [illegible] ver, the later Roman L. L. may have evolved a system in some respects not dissimilar to continental feudalism, there was in them nothing like the English sys[illegible] under the s[illegible] king. It is [illegible] commendati[illegible] fidelity and [illegible] gations of military service, were features common to English and Teutonic feudalism. But the conception of England as the hereditary

fief of the king was quite indigenous; and the subsequent evolution of the English L. L. through the principle of primogeniture into a hard and fast system of succession in a strict line of devolution, which served to keep great landed estates concentrated in the hands of a single member of a country family, was no less peculiar a feature of the English feudal organisation. The strength of feudalism in the English L. L., in spite even of the later privilege of testamentary disposition, is indeed remarkable, and has earned for England the name of the 'Herculaneum of Feudalism.' For even with full power of disposition, wills of land, with the English landed classes, are used chiefly to 'aid or imitate that preference of the eldest son and his line which is a nearly universal feature in marriage settlements of real property.'

The greatest interest which an English subject can have in land, viz. an estate in fee simple, is theoretically short of being absolute, in that it is subject to the shadowy ownership of the king. But such interest confers almost plenary rights on the owner. It confers free enjoyment, consistently with security to the persons and property of others, and disposition, and is characterised in all but form by all the incidents of absolute ownership. An owner in fee simple can freely dispose of his land in his lifetime, or by his will, either for his whole interest or for any part of it, or for a term of years (*see* CHATTEL INTEREST, LANDLORD AND TENANT), though this right of disposal is subject to the operation of the bankruptcy laws against voluntary assignments or conveyances in fraud of creditors. It is not, however, to be supposed that these characteristics of full ownership arose spontaneously, or as necessarily incidental to feudalism; on the contrary, each fragment of such ownership represents the result of a hard-fought contest between feudal overlords and their tenants in which the latter ultimately deprived the former of everything, although in a few cases a negligible quit rent may still be payable by a freeholder (*see* DE DONIS, and also ESCHEAT). The fee simple owner, or owner of a freehold of inheritance, may freely grant away estates for life or in tail (*see* ENTAIL, ESTATE), or create leases of his lands for any number of years, and charge on them the payment of any sum of money by way of annuity, rent-charge, or mort-

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above and below (*per cujus est so*
ejus est usque ad cœlum et ad inf...

The right to the air above has hitherto been merely one way of expressing the owner's right to erect buildings to any height he chooses, subject, of course, to any limitations on that right which he may have imposed upon himself by covenants with grantess of his adjacent land, and subject to the right to light gained by prescription by other persons; but in these days of the development of the art of flying the right may conceivably require a more liberal interpretation. The right to the actual soil in the case of a highway is subject to the public right of way (*see* HIGHWAYS), but is otherwise unimpaired, though mining operations must not be carried out so as to break up the highway. The right to the minerals is subject to the crown's right to any gold or silver mines (called 'royal mines'). The crown is also entitled to buy copper and other ores at a valuation. The freeholder may also except out of a conveyance of his land the mines lying under it, and they will then remain his corporeal property, subject to the duty of working them in such a way as to leave sufficient support to the surface. Where copyholds have been enfranchised (converted into freeholds), the lord of the manor or paramount freeholder continues entitled to the minerals. Water is technically *land* covered with water (*see* LAND), but the owner's right to water depends on whether it is percolating, or running in a defined stream or channel; if the former he may do as he will with it, notwithstanding the detriment to others who may have relied upon it previously for water-supply, and notwithstanding that his drainage operations may cause a subsidence of neighbouring property (*see* DAMNUM ABSQUE INJURIA). But if the latter, he has no right to exhaust the supply or pollute the stream, or divert or dam the water, unless the diversion causes no material injury to other landowners over or through whose land the stream also flows, or unless he has obtained a right to divert or pollute by prescription (uninterrupted user for forty years); and whether the water be tidal and navigable or not, every other riparian owner has an equal right to take a reasonable quantity for domestic or business purposes.

But all these incidents of absolute ownership may be limited in a number of ways by the owner himself, who besides being able to grant portions of his land to others for any estate, may grant rights of way or other

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profits à prendre (*see* COMMONS). Easements, commons, and other limited rights over and in the produce of the land of another are either 'appendant' (*i.e.* arising out of an ancient feudal manor and belonging to the freeholders of such manor), or 'appurtenant' (*i.e.* attached to ownership of particular land), or 'in gross' (*i.e.* belonging to a person in his own right and not depending upon ownership of land at all, and generally owing their origin to some former grant, real or fictitious, or by prescription). Various rights against an owner of land may also be gained by prescription, *i.e.* uninterrupted user for a certain number of years. A right of way is gained in twenty years, a watercourse in forty. A right to light for any dwelling-house or other building in twenty years (subject to the right having been enjoyed by some consent or agreement expressly given in writing). Where the owner of a house and adjoining vacant land sells his *house*, a right to light over the land arises by implication, but if he sells the *land* such easement arises only where he expressly reserves the right to light over the land sold.

In regard to the right of an owner to carve out of his own estate or interest lesser estates, it is to be observed that there exists in our L. L. a fundamental rule against what are called perpetuities. An owner may grant by deed or will a number of life estates to existing persons and thereafter interests in 'remainder' and 'reversion'; the whole forming, as it has been aptly said, a series of estates projected on the plane of time; but in so doing he must take care that no interest given to some unborn person is so remote that it cannot arise within the compass of existing lives plus twenty-one years, with an added nine months for the period of gestation. This rule against perpetuities, which was early designed in the interests of the free circulation of land, is capable of less scientific expression by saying that an estate granted (*see* GRANT) to an unborn person for life cannot be followed by any estate to any child of such unborn person. The rule, however, is subject to modification when the gift is by will (devise), and the offending gift is preceded by an estate tail (*see* ENTAIL, ESTATE). But this rule is further subject to a practical limitation imposed by the conveyancing device of the strict settlement, by which the substance if not the shadow of perpetual estates is preserved. Briefly, a strict settlement is a mode of keeping landed estates in the hands of a family by creating life estates in existing or living persons, followed by estates tail in remainder given to unborn persons in a regular order of succession, together with clauses for pin money jointure (*q.v.*), and portions (*see also* HOTCHPOT) for younger sons. What usually happens is that an eldest son on attaining his majority or marrying enters into a deed whereby he and his father resettle the land on the father for life, then on the son for life, and then on the son's son in tail; and so the process is repeated from generation to generation. The tenant for life has, under the Settled Land Acts, practically all the powers of a tenant in fee simple (unless, of course, leaseholds form the subject of settlement, when entirely different considerations apply); but such powers are exercisable chiefly in the interests of the inheritance; and he is limited as to his power of sale of the mansion-house, heirlooms, etc., and in any case a sale of any part of the lands must be at *the best possible price*, and only after notice to two of the trustees of the settlement.

The rights of a lessee are determined by the conditions of his lease, and need not be further discussed here, except to notice that where there are no restrictions by the lessor, the lessee's right to use the land is as unfettered as that of a freeholder.

Enough has been said above to show how valuable the legally safeguarded rights of a landowner are, and it is not surprising that economists and publicists have at various times endeavoured to prove that private property in land is naturally inequitable. In England a strong movement has been set afoot in recent years for the taxation of land values. A tentative step in this direction was taken in the celebrated budget of 1909, which not only provided for an original valuation of every acre of land in the kingdom, with a differentiation between site and 'total' value, but imposed some four new land taxes directly aimed at the land monopoly in the interests of the developer of land (*see* LAND TAXES). Some have gone so far as to assert that land is so different from all other kinds of property that it not only can but ought to be the exclusive source of taxation. This 'single tax' movement originated in the teaching of Henry George (see *Progress and Poverty* and *Land Nationalisation*, by Henry George), and, broadly speaking, it may be said that George's idea was that land should be progressively taxed up to its full capital value, until ultimately property in land values was taxed out of existence, and land thereby became wholly state-owned. This article is not concerned with the reasons for and against the

'single tax' movement, the principles of taxation of land values in general, or land nationalisation, except in so far as they have found expression in L. L. The undeveloped land duty is designed to force all land into its best use, and thereby to free land on the margin of cultivation; the increment value duty recognises what may be called the social aspect of private property, by forcing the owner to give to the state a proportion of the gain that has accrued to him by reason rather of the collective action of the community than by his own exertions; and these are some of the essential principles of the 'single tax' movement. Again, the germ of nationalisation is clearly recognisable in the creation of small holdings and allotments, and, indeed, in the very principle of the compulsory purchase of land for any public purpose. That principle would in all probability be carried very much farther, at all events in the direction of purchase for small holdings, town-planning schemes, housing schemes, and other public purposes, were it not for the heavy payments by way of compensation. Under the Lands Clauses Acts compensation has to be paid not only to owners of land purchased compulsorily, but also to owners whose land is 'injuriously affected' by the scheme or purpose for which land has been purchased. But the decided cases establish that compensation for 'injurious affection' is only payable when the injury is actually due to the execution of the works contemplated by the scheme; is actionable but for the statute or private act authorising such works to be executed; and constitutes an infringement of a right incident to land (*i.e.* a mere personal injury though connected with the enjoyment of particular land, *e.g.* a contract to erect a building on land, is not ground for compensation). Again, 'special adaptability' is an element to be taken into consideration in assessing compensation, *e.g.* where land is compulsorily taken for the purpose of making a reservoir, the fact that the land has peculiar natural advantages for supplying a district or area, apart from any value created or enhanced by the scheme or act for appropriating the water to a particular local authority, may be taken into account in awarding compensation. But on the other hand, persons whose property has obviously been increased in market value by a particular town or other public or quasi-public improvement are required to pay a special charge, called 'betterment charge,' assessed in such improved value. Betterment charges are analogous to increment value in principle, but whereas the latter indicates an accretion of value due to some origin which cannot be traced, or to a cause not specially connected with the owner, such as the general progress in wealth of the community, the former implies that an accretion of value has accrued from some specific cause, *e.g.* a laying out or widening of streets in the vicinity. A local authority may under the Housing and Town Planning Act, 1909, recover one-half the increase in value due to the making of a town-planning scheme from the owner whose land has been so enhanced in value.

County councils are empowered by the Small Holdings Act, 1908, to purchase or take on lease land within or outside the county to provide small agricultural holdings exceeding one but not exceeding fifty acres, or if exceeding fifty acres, of an annual value for income-tax purposes not exceeding £50, and the land may be purchased either compulsorily or by agreement; but if by the former method the council must first submit the proposed order under the Lands Clauses Act to the Board of Agriculture for confirmation. The council may then either sell or let the land for small holdings; in the case of sale, one-fifth of the purchase price must be paid down and one-fourth may be secured by a perpetual rent charge, while the balance may be paid by half-yearly instalments extending over a period of fifty years. The council may in their discretion advance four-fifths of the purchase price to a tenant who purchases land for a small holding from his own landlord. Land let or purchased for small holdings may not be assigned or sublet without the consent of the council. Any borough, may acquire compulsorily and it is the duty of the county council, whether on a written requisition of ratepayers or not, to consider whether there is a demand for allotments in the parishes within their county (exclusive of boroughs), and to act in concert with the local authorities to supply such demand (*see also under* LANDLORD AND TENANT). In connection with the subject of agricultural tenants should be noticed *tenant-right*, or the right of an agricultural tenant, more particularly in Great Britain and Ireland, to remain a tenant so long as he continues to pay rent and act properly, and to have the rent not raised too high, and to receive compensation from the landlord if turned off. The term is, however, capable of varying applications, but is more specifically

used to denote the right of Irish tenants in Ulster (called *Ulster tenant-right*) to claim the value of unexhausted improvements made by him on his farm if evicted. Under the Agricultural Holdings Act, 1908, a tenant is not only entitled to compensation for improvements expressly classified in the Act, but the Act expressly preserves his right to compensation for matters which formed the subject of compensation previous to or irrespective of the Act, *e.g.* in respect of away-going crops (*i.e.* crops sown by the tenant, and which ripen after he goes away), and fixtures. The subject of tenant-right is now, practically speaking, wholly regulated by statute, although originally it was an ancient customary right entitling a tenant to 'have his messuage or tenement during his life, and after his decease to the eldest issue of his body.'

The mode of disposing or conveying land is more fully discussed under CONVEYANCE, CONVEYANCING, but on this part of L. L. it is to be observed that there is a very general tendency to sir
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distinct from that of deeds), a system which obtains in the county of London, Germany, Austria-Hungary, Australasia, Switzerland, and Canada. Land is necessarily not a subject-matter capable of such simplified modes of disposition as other property, and to obtain a good title it is necessary to employ a solicitor to trace back the history of the land that is being negotiated for for a certain number of years. This history, or 'abstract of title,' is sometimes of great length, and not seldom contains some hiatus in the chain of devolution which may not inconceivably vitiate the purchaser's title. But if once a system is adopted of requiring the compulsory registration of every transfer any parcel of will become im-measurably simplified.

By the Land Transfer Acts, 1875-97, the owner of land may be registered as the proprietor, and thereafter, if he wishes to transfer the land, he may do so simply by a registered transfer. The title may be registered either as an *absolute* title, *qualified* title (*i.e.* subject to some specified defect), or merely as a *possessory* title (*i.e.* subject to any adverse claims which existed or were capable of arising at the time of registration). The Land Transfer Act, 1897, makes registration of title compulsory within the county of London (exclusive of the city). The applicant for registration is bound under the Land Transfer Rules, 1908, to hand all his title-deeds to the registrar for inspection. The great advantage of registration of a title is to obviate the necessity of a purchaser investigating the title, and the effect is that the purchaser gets the full legal estate (*q.v.*), subject only to such mortgages or other charges as are entered on the register, and subject to easements. Registration of deeds under various Acts, most of which have been superseded by the Land Charges Act, 1900, obtains in Middlesex and Yorkshire. In the land registry in London the following claims against land must be registered: judgments, debts due to the crown, pending law-suits, annuities, deeds of arrangement, and land charges; and the consequences of non-registration are that a *bona fide* pur-
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Land, the Dutch Colonies, Canada, and S. America. As to the prohibition of tenure of land by charities or other corporations, *see* CHARITIES, CHARITABLE USES, MORTMAIN.

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Land League, The, formed by Michael Davitt, and other Irish politicians in 1879, as an organisation for promoting reforms of land tenure in Ireland. The agitation of its members resulted in Irish tenants forming a kind of *trade union*, by the rules of which they were bound to refuse dealings with any tenant who had taken land from which its former occupier had been evicted. One of the first victims was Captain Boycott, whose name has ever since been a synonym in the English language for *shunning* a person. According to modern historians of Irish affairs, the L. L. did its utmost to warn the peasantry against deeds of actual violence, but the government, fully believing that its members had encouraged and incited tenants to commit outrages, instituted a prosecution against Mr. Parnell, Mr. Biggar, Mr. Sexton, Mr. Dillon, and the entire executive body of the L. L. The prosecution produced no result, for, as Mr. Justin M'Carthy (*History of our own Times*) points out, the crown could never

have found a jury in Leinster, Munster, or Connaught, to convict Mr. Parnell of sedition, unless it had 'packed' the jury. The L. L. was a great factor in the history of agrarian reform in Ireland, and one of the first legislative fruits resulting from it was the concessions in Gladstone's Land Bill, 1881, though Parnell himself did not deem it politic to accept the Bill in the name of his revolutionary followers as anything more than a small instalment of their just demands. The L. L. through Parnell then advised Irish tenants generally to abstain from litigation against landlords until certain test cases had been decided. The result was that the government interpreted Parnell's advice as an attempt to thwart its legislation, and promptly imprisoned him under the Coercion Act. Later, when other prominent members of the L. L. were imprisoned, the league was dissolved.

Landlord and Tenant. Technically an owner in fee simple (*see* ESTATE, INHERITANCE, HEREDITAMENTS) who leases his land to another for 999 [illegible] stands to that [illegible] L. and T. In [illegible]onship L. and [illegible] will be restricted to its popular connotation of a grant so limited in duration, and so burdened with reciprocal obligations or covenants (*q.v.*) for rent, repairs, and the like, that the grantor or landlord retains an appreciable or substantial interest in the land leased. Any landowner may grant a lease to another for a term not exceeding in duration the interest or estate he himself holds in the land; but a tenant-for-life under the Settled Land Acts can, under certain conditions, grant building leases for 99 years, mining leases for 60 years, and occupation leases for 21 years, and such leases will stand good even though they may endure beyond the life of the lessor, for they are made for the benefit of the inheritance rather than that of the tenant-for-life, and the latter will have to set aside a certain portion of the rents from mining leases and fines reserved on those and building leases as capital moneys. With certain exceptions any one may become a tenant; but an infant (*see* INFANCY) may on coming of age, repudiate within a reasonable time leases taken by him while under age.

Tenancies are either for a fixed term of years (commonly called a leasehold), from year to year (yearly tenancy), or for a shorter term than a year, including the tenancy of a lodger. No precise or technical form of words is required to constitute a leasehold, but it is unwise, especially from the tenant's point of view, not to be guided by precedent, for omissions almost inevitably throw further burdens upon him and not on the landlord. Leases for less than three years may be validly treated verbally or by writing; and similarly leases for three years, provided the rent reserved is at least two-thirds of a rack-rental, or of the full annual value of the land; all other leases should be by deed. A verbal agreement for a lease for more than three years is unenforceable, unless there has been some act amounting to part performance (as to which *see* FRAUDS, STATUTE OF); but if the tenant enters into possession it takes effect as a tenancy at the will of the landlord, and if he pays rent it becomes a yearly tenancy. If in writing, though not under seal (*i.e.* not a deed), the tenant can get the agreement to grant a lease enforced by a court of equity (*q.v.*). The advantage of a deed is that it gives the *legal estate*, and where two innocent persons are defrauded by a landlord purporting to grant the same land to two persons at once, he who has the legal estate prevails. If both have deeds, the first in date prevails; otherwise a deed is now of no great importance. As to building leases granted in consideration of a ground rent, *see under* GROUND RENT.

Leases are generally prepared by the landlord's solicitor, who submits a draft lease to the tenant's solicitor for approval or amendment. The lease is then engrossed (formally written out) in duplicate, and the *counterpart* being retained by the landlord and the *lease* delivered to the tenant. The latter, if he does not employ a solicitor, should see that the engrossed lease contains all the amendments or alterations agreed upon. The tenant pays the expenses of the landlord's solicitor according to a fixed scale (*see* FEES). Leases usually contain covenants (*q.v.*) by the tenant to pay rent, rates, and [illegible]'s property tax); [illegible] in tenantable [illegible] of the term to deliver up the premises in good repair; to insure the premises against fire; to permit the landlord on giving notice to enter and view the state of repair; and not to assign or underlet without the landlord's consent; and a covenant by the landlord that the tenant shall have quiet possession. In the absence of express agreement the tenant and not the landlord is bound to do repairs. Most leases also contain a proviso for re-entry by the landlord on the tenant failing to perform his covenants; but this is not to be interpreted literally, as the landlord must first give the tenant notice of the breaches (*q.v.*) complained of,

and reasonable time to remedy them, and then, if the tenant continues to make default, take proceedings in ejectment (*q.v.*).

It is to be observed that in practice the above covenants are often varied by agreement, and of course it is to each party's interest to throw as many of the burdens as possible on the shoulders of the other. The principal bone of contention is the repairing covenant; and in this connection it should be noted that a covenant to yield up in a good state of repair does not mean that the tenant is under an obligation to renovate the premises, for the nature and age of the premises and the class of neighbourhood will be taken into account by a court of law in deciding what repairs the tenant was bound to execute. If the premises are burnt down, the tenant will still be liable to pay rent in the absence of express stipulation in the lease to the contrary; and if he is under a repairing covenant, he will also have t pay so much of the expenses of repa as are not covered by insuranc moneys.

A yearly tenancy is one which expressed to be from year to year, or in respect to which the tenant pays a yearly rent. A clear six months' notice is necessary to determine a yearly tenancy. A tenancy for one year certain, and thereafter from year to year, is not a yearly tenancy, but operates as a tenancy for two years at least, and the earliest moment at which it can be determined is at the end of two years by notice given at the end of the first year. Quarterly, monthly, and weekly tenancies may be determined by a clear quarter's, mon

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the locality determines what notice to quit must be given. Generally speaking, if the hiring is from year to year, six months' notice must be given, if quarterly a quarter's notice, and so on; and a lodger who quits without giving notice is liable for six months', a quarter's, or a week's rent according to his contract.

Tenancies at will (apart from the case of verbal contracts noticed above) arise where a tenant is let into possession of land on the terms that he is either bound to quit at the *will* of the landlord, or entitled to go at his own will. At law the payment and acceptance of rent will convert such precarious tenancy into a yearly tenancy. Tenancies at will do not often occur in practice, any more than tenancies by *sufferance*, *i.e.* where the tenant holds over after expiry of his lease. Most lawyers regard the tenancy by sufferance as a legal fiction to explain feudal archaisms, and in practice it may be safely assumed that the law will construe a tenancy of holding over to be continued on the same terms as the expired tenancy, or else as a yearly tenancy, subject, of course, to there being clear evidence of a merely contumacious holding over against the will or knowledge of the landlord, in which case the tenant will be liable for double rent where he has himself determined the tenancy by notice; and for double the annual value if the landlord gave the notice. Except in the case of furnished houses

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tenancies of
houses of a certain annual value there shall be implied a condition that the

London let at a rent not exceeding £40; to houses situate in a borough or certain district with a population of 50,000 or upwards, and let at a rent not exceeding £26; and to houses elsewhere let at a rent not exceeding £16 (*see also under* HOUSING OF THE WORKING CLASSES). But it is to be noted that a person who knowingly lets for hire premises in which any person has been suffering from any infectious disorder, without having duly disinfected the premises and articles contained therein, to the satisfaction of a medical practitioner, is liable to a penalty not exceeding £20, or to one month's imprisonment.

The right of distraining for rent upon goods situate on the premises is subject to a great number of limitations. As a rule distress is levied through a certificated bailiff armed with a written warrant. (For a list of things not liable to be distrained upon and the law of distress generally, *see* DISTRESS.)

Agricultural tenancies or holdings stand on a somewhat special footing. In the absence of agreement to the contrary a tenancy from year to year can only be determined by a year's notice expiring with the year of the tenancy. The Agricultural Holdings Act, 1908, gives the tenant a right to compensation from the landlord at

the expiry of the lease, for certain improvements made by the tenant, the compensation payable being based on the market value of the improvements to an incoming tenant, less a sum representing any benefit extended by the landlord to the tenant in consideration of improvements. In the event of dispute as to the amount of compensation, the matter must be settled by arbitration. As to the tenant's right to remove agricultural fixtures and the law of fixtures generally, *see* FIXTURES. As to the disclaimer by a trustee on bankruptcy of leases burdened with onerous covenants, *see* DISCLAIMER.

The stamp duty on a lease or an agreement for a lease for any term not exceeding one year of a dwelling-house let at a rent not exceeding £10 is a penny; upon a lease or agreement to lease a furnished dwelling-house or apartments for a definite term less than one year at a rent exceeding £25, half a crown; and upon a lease or agreement for a lease of any lands or tenements at a yearly or average rent according to the scale given below:—

Rent exceeding			Rent not exceeding			Term not exceeding 35 years			Term between 35 and 100 years			Term exceeding 100 years		
£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
			5	0	0	0	0	6	0	3	0	0	6	0
5	0	0	10	0	0	0	1	0	0	6	0	0	12	0
10	0	0	15	0	0	0	1	6	0	9	0	0	18	0
15	0	0	20	0	0	0	2	0	0	12	0	1	4	0
20	0	0	25	0	0	0	2	6	0	15	0	1	10	0
25	0	0	50	0	0	0	5	0	1	10	0	3	0	0
50	0	0	75	0	0	0	7	6	2	5	0	4	10	0
75	0	0	100	0	0	0	10	0	3	0	0	6	0	0
100	0	0	for each £50, or a fractional part of £50			0	5	0	1	10	0	3	0	0

The stamp duty on a counterpart is *5s.*, except where the duty payable on the lease itself is less than *5s.*, when the same duty is payable on both documents. *See* Woodfall, *Landlord and Tenant;* Foa, *Landlord and Tenant.*

Landnáma-Bók, or the Book of Settlements, written by Ari Fróthi (1067-1148), who is truly called the father of Icelandic saga. It is the earliest historical record of Iceland, and is written in the Norse tongue. The first part tells of the discovery of the island, and the other four parts are detailed and faithful accounts of the settlers in its four quarters, with mention of their dwellings, palaces, temples, and descendants.

Landon, Charles Paul (1760-1826), a French painter, born at Nonant. He studied under Vincent and Regnault, and was awarded the Grand Prix (1792). He became curator of the Louvre Gallery, and abandoned painting for literature. He wrote over 100 books on art. His chief pictures are 'Dædalus and Icarus,' 'Leda,' 'Venus and Cupid,' and 'Paul and Virginia.' He died in Paris.

Landon (or London), Gideon Ernst Freiheri von (1717-90), a celebrated field-marshal of the Austrian army, born in Livonia. Entered service of Maria Theresa in 1743, having previously been ten years in the Russian service and gained distinction in several exploits. During the Seven Years' War he contributed greatly to the victory of Hochkirchen, as also to that of Kunersdorf, where Frederick the Great commanded in person. L. also commanded during the War of the Bavarian Succession (1778) and the Turkish War (1788-89), when he gained several victories and capture[illegible]eson's *Life of*

Lande[illegible] after-wards M[illegible] poet, began to publish verses when she was in her eighteenth year under her initials 'L. E. L.,' and in 1821 brought out *The Fate of Adelaide*, and between this date and 1829 issued other volumes of poetry. Her first novel, *Romance and Reality*, appeared in 1831, and was followed three years later by *Francesca Carrara*. *Traits and Trials of Early Life* (1836) is said to be autobiographical. In fiction her best work was *Ethel Churchill* (1837), which was reviewed by Thackeray (*Fraser*, Jan. 1838). Neither her poems nor her novels are read to-day. There is a biography by Blanchard (1841).

Landor, A. Henry Savage, an artist and explorer, grandson of Walter Savage L., born at Florence.

For several years he travelled in the Far East and later in America, Australia, N. Africa, and S. America. He was the first white man to reach both sources of the great Brahmaputra R. and establish their exact position (1897), establishing, at the same time, the fact that no range higher than the Himalayas existed to the N. of that river. He was also the first white man who explored Central Mindanao Island, discovering the existence there of the 'white tribe' of the Mansakas. He holds the world's record in mountaineering, having reached the height of 23,400 ft. on Mt. Lumpa (Nepal) in 1899. He accompanied the allied troops on the march to Pekin in 1900. He has published: *Alone with the Hairy Ainu; In the Forbidden Land*, 1898; *China and the Allies*, 1901; *The Gems of the East*, 1904; *Tibet and Nepal*, 1905; *Across Widest Africa*, 1908; *The Americans in Panama*, 1910; *An Explorer's Adventures in Tibet*, 1910.

Landor, Walter Savage (1775-1864), an author, was educated at Rugby and Trinity College. He declined to be called to the bar, and preferred to live on a small allowance from his father. He stayed for three years in the country, and in 1798 published his first poem, *Gebir*, which, highly praised by few, including Southey, Shelley, and Coleridge, did not attract the many. He spent a wandering life for many years, staying at Bath and other Somersetshire towns, a visited Paris in 1802. On the death of his father in 1805, he came into a handsome competence, and three years later went to Spain and served as a volunteer against the French. In 1811 he published his second book, *Count Julian*, a tragedy, which met with the same fate as its predecessor. He now bought the estate of Llanthony Abbey, married, and settled down as a country gentleman, but in 1814 he went abroad, where he resided until 1835. In 1824 he issued two volumes of *Imaginary Conversations*, and three more in 1828-29. From 1835 until 1858 he lived at Bath, and then went abroad, where he died six years later. He was hopelessly irascible, and always quarrelling, but he contrived, by some happy chance, to remain on good terms with Dr. Parr, and, later, with Browning. His poems are little read, but his prose will long survive. He cared nothing for popularity or popular feeling, and was always convinced that his great merits as a writer would be recognised, as, indeed they have been, by posterity. The *Imaginary Conversations* are the best epitaph that can be pronounced upon him. There is a biography by John Forster (1869).

Landrail, *see* CORNCRAKE.

Landsberg, a tn. in Bavaria on the Lech, 22 m. S. of Augsberg. It manufs. agricultural implements and machinery. Pop. 7293.

[illegible] andenburg, 40 m. N.E. [illegible] The chief manufs. are furniture, bricks, and machinery. It has also foundries and breweries. Pop. 39,332.

Landscape (O.E. *landsceap, landscipe*; Dutch *landschap*), a view of inland natural scenery. The word is used particularly of pictures of rural scenes as distinguished from marine, architectural (external or internal), and portrait pictures. From a scientific point of view it depends on the composition and structure of rock and soil, and on animal and plant life.

Landscape Gardening is gardening on a large scale, its aim being to produce a beautiful effect by means of the right juxtaposition and combination of open space, trees, water, and buildings. Such gardening was practised in early times by the Assyrians, Jews, and ancient Greeks, but little authentic information is available with regard to the style of their gardens. It is possible that they paid greater attention to architecture, to the external appearance and internal [illegible] they did to [illegible] of an estate. [illegible] gustan period and later built their luxurious villas amid a garden of shady trees, with cool porticoes, fountains, and marble terraces. They probably introduced the art of L. G. into Great Britain. The ruins of a Roman villa were discovered a century ago on the Blenheim estates, and it is conjectured that it was the central feature of Henry I.'s magnificent park at Woodstock. The Italians of the 16th century cultivated the art of L. G. Marble, which needs the background of an Italian sky to set off its beauty, was used to great effect in terraces, fountains, and steps. The gardens of Fontainebleau, set out by Francis I. in direct imitation of those he had seen in Italy, were subsequently altered by Henry IV. and Napoleon. Dutch gardening is characterised by its prim neatness, its smooth, carefully kept lawns, and stiff hedges and bushes cut into fantastic shapes supposed to represent animals. In Great Britain, the gardens of Hampton Court and St. James' were made by William in emulation of the beautiful gardens of Versailles. Of modern English landscape gardeners, the greatest have been William Kent

(1684-1748), who planned Richmond Park, and Lancelot Brown (1715-83), commonly known as 'Capability Brown,' who re-modelled Blenheim. Consult the works of Loudon (1822), Repton (1840), F. R. Elliott (1878), and H. E. Milner (1890).

Lands Clauses Acts comprise a series of Acts · The Lands Clauses Consolidation Acts, 1845 and 1869, the Lands Clauses Consolidation Amendment Act, 1860, the Lands Clauses (Umpire) Act, 1883, Lands Clauses (Taxation of C Act, 1895, the object of which provide legislative clauses for corporation in special or private of Parliament authorising land to be acquired either by agreement or compulsorily for the purpose of railways, harbours, waterworks, gasworks, cemeteries, electric lighting, markets and fairs, tramways, canals, housing schemes, small holdings, or any other public undertaking, whether national, local, or municipal, or for commercial purposes of public utility. In the case of compulsory acquisition by the promoters of the undertaking, the Acts provi[illegible] be paid to the which is genera[illegible]tion. The only persons entitled to take lands under the Acts are the [illegible]

(*i.e.* a private Act for a commercial undertaking) incorporating by reference the Lands Clauses Acts. In the case of a special Act no lands or easements (*q.v.*) can be taken by the promoters unless actually required for the undertaking, and lands taken must be delineated on the plans deposited with the Board of Trade, the Local Government Board, or the Private Bill Office of Parliament according to the Standing Orders. But in the case of public Acts it is not necessary to deposit plans, and generally speaking, the powers given by such Acts are more literally construed than those given by special Acts. Lands required for extraordinary purposes incidental to those of the undertaking may be acquired by private treaty. Under the Act of 1845, the promoters may be required to take the whole of a building if they propose to take any part of it; but if not, the compensation will include payment for 'injurious affection.' (as to which *see under* LAND LAWS). *See* Cripps, *On Compensation*, 1905; Hudson, *On Compensation*, 1906.

Landseer, Sir Edwin Henry (1802-73), an English animal painter, was already sketching cows and horses from life at the age of six, and eight years afterwards became an exhibitor. He passed through the Academy schools, took lessons from Haydon, became an associate of the Royal Academy at the earliest age possible (twenty-four), and in 1830 was elected a full member. His early work, as, for example, 'Dogs of St. Gothard Discovering a Traveller in the Snow' (1820), and the diverting 'Cat's Paw' (1824), is informed with a spirit of masculine animalism, and excels in high finish [illegible] and most pictures of with sentisinks to dogs dehose spirits have been tamed by civilised domesticity than brutes of primeval instincts. He developed, moreover, an amazing facility; the much-admired 'Cavalier's Pets' (1845) was begun and finished in two days. In 'High Life' and 'Low Life' (1829) and the splendid 'Drover's Departure' (1835) L. carefully interweaves a human with the animal interest, whilst 'Jack in Office' (1833) and 'Dignity and Impudence' (1839) afford delightful illustration of his humorous vein. 'The Monarch of the Glen' (1851) nobly evinces his sense of the dramatic, and 'The Old Shepherd's Chief Mourner' (1837) is a masterpiece of pathos. Finally, his 'Man Proposes, God Disposes' (1864) is gruesome enough to challenge comparison with David's 'Anatomy Lesson.'

Land's End, a promontory of S.W. Cornwall, England, which forms the most westerly point of the country. It is 9 m. S.W. of Penzance. The End is a turf slope, ending in a granite cliff about 60 ft. high. A natural tunnel pierces the headland, and there are interesting caves which can be visited at low tide. Dangerous rocks lie off the point; the Longships lighthouse (erected 1793) is situated about a mile out.

Landshut, a tn. on the Isar, Upper Bavaria, 38 m. N.E. of Munich. It contains many beautiful churches the castle of Trausnitz (13th century), and a monastery, formerly the seat of a university. Here the Austrians defeated the Bavarians and were defeated by Napoleon in 1809. The chief manufs. are machinery, rope, tobacco, and chemicals. Pop. 25,150.

Landskrona, a seaport on the E. side of the Sound, in the prov. of Malmöhus, 15 m. N.E. of Copenhagen in Sweden. It has an excellent harbour and is busily engaged in sugar-refining, tanning, and other industries. Many battles took place in its neighbourhood during the 16th and 17th centuries, and in 1667 it was the scene of a great naval victory

of the Swedes over the Danes. Formerly it was called Landor and was strongly fortified. Pop. 16,041.

Landslips, falls of rock and large portions of land, which, for various reasons, have been detached from their original position or broken away from a cliff. One of the natural causes in producing L. is water, consequently, they are frequent on the coast, where the continuous wash of the waves gradually undermines the rocks or soil and makes deep cracks in the base of the cliffs. The cliffs of the S. of England, consisting of chalk and [illegible] liassic clay [illegible] L., which [illegible] outline of [illegible] due to th [illegible] the clay until the superincumbent mass lurches forward, and forms an undercliff. L. are not uncommon in mountainous districts, where overhanging rocks that for centuries have withstood the elements suddenly become displaced by a heavy rainfall or by the melting of the snows.

Land Taxes. 'Land tax' under an Act of 1798 is payable upon all freehold and leasehold property, in respect of which such tax has not been redeemed. This tax is assessed upon the annual value of freeholds and leaseholds in every parish; each parish is liable to pay a fixed proportion of the tax, which is raised by an equal pound rate which must not exceed 1s. nor be below 1d. in the £. A landowner whose annual income does not exceed £160 is exempt from payment, and a remittance of one-half of the tax is allowed where his income does not exceed £400. Relief must be claimed before actual payment of the tax. Lands or tenements, the yearly value of which is below 20s., are not liable to assessment. The tax may be redeemed as to any lands or houses by payment to the inland revenue commissioners of a capital sum equal to thirty times the tax charged upon such lands or houses, and such sum may be paid either in one sum or by four equal annual instalments of not less than £5 each, or by annual instalments of not less than £60 over a period over four but not exceeding sixteen years, with interest at 3 per cent. on the balance after payment of each instalment.

Though technically styled Income Tax, the landlords' prop[illegible] tax on owners of lands or [illegible] Schedule A of the Incor[illegible] 1842, is strictly a tax up[on] Land). It is assessed o[n] value of all lands and tenements (unlet houses being exempt). Such annual value being the full rack rent, as ascertained on a quinquennial valuation. If the occupier pays it in the first instance, he may deduct it from his next payment of rent, and if the landlord is himself only a lessee he may in turn deduct it from the next rent payable to the superior landlord. Under the Finance Act, 1894, a deduction is allowable in the case of lands and farms to the extent of one-eighth of the assessment; and in the case of buildings, to the extent of one-sixth where the landlord executes the repairs, and where the tenant does the repairs, such a reduction (not exceeding one-sixth), as will bring the assessment down to the rent payable by him. There is also an allowance to owners of lands and houses in respect of the average cost of maintenance, repairs, insurance, and management up to one-eighth of the annual value in the case of land, and one-twelfth in the case of houses. This special allowance does not apply to houses over £8 annual value. Further deductions may be made for L. T. (*see* above); for drainage rate; and where the owner pays, for tithe commutation rent charge, and tenant's rates and taxes. There are also four new duties under the Finance Act (1909-10) 1910 Act.

1. *Increment value duty.*—A stamp duty of 20 per cent. on the increment (*q.v.*) value of land. The tax is payable on certain specified occasions: (*a*) When land is sold; (*b*) when land is leased for a term not exceeding fourteen years; (*c*) when land passes by reason of the death of the owner; (*d*) in the case of land belonging to a corporation the duty is payable in 1914, and at the end of each subsequent period of fifteen years, unless the corporation elects to make annual payments. The tax is charged on the amount by which the site value of the land at the time of payment exceeds the original site value as at April 30, 1909 (the date of the original valuation). The duty is only payable where the increment amounts to at least 10 per cent., and if the increase exceeds 10 per cent., the first 10 per cent. of such increase is exempt. All money spent upon the land is allowed for in the assessment. A purchaser who has bought land within the last twenty years which has gone down in value may substitute for the official valuation of 1909 the amount of his purchase money. Increment value duty [illegible] all upon (*a*) agri[illegible] h time as it has [illegible] for agricultural [illegible] sed for sporting [illegible], unless its value for such purposes exceeds its value for agricultural purposes; (*c*) small houses occupied for twelve months previous to the collection of the duty,

by the owner or holder of a lease of fifty years, where the annual value is not over £40 in London, £26 in towns with a population of 50,000, and £16 elsewhere; (*d*) agricultural holdings, occupied and cultivated by their owners or leaseholders, not exceeding 50 acres and of a value not exceeding £75 an acre; (*e*) recreation grounds held by a body corporate or unincorporate, or otherwise than for profit. Up to March 31, 1912, some 272,350 valuations were made for the purposes of this duty, and the land comprised was valued at £106,180,348; but the total amount of duty for 1911-12 was only £6093, the total actual amount of increment taxed being only £57,967.

2. *Reversion duty* is at the rate of £1 for every £10 of value of the benefit accruing to a lessor by the determination of a lease. The value of the benefit chargeable is the amount (if any) by which the total value of the land at the time of the falling in of the lease exceeds the total value at the time of the original grant, and 'total value,' means the amount which the fee simple (*see* ESTATE) would fetch in the open market if sold at the determination of the lease, subject to fixed charges (rates, taxes, etc.), public rights of way, easements, etc. If increment duty has been paid, reversion duty will not also be payable on the same increase of value, and the converse also applies. The duty is not payable on a lease of agricultural land, or on leases for not more than twenty-one years, or where the reversionary interest is itself a leasehold interest not exceeding twenty-one years, or by those who before April 30, 1909, purchased reversions of leases falling in within forty years from that date. The total yield for the year 1911-12 was £22,498, the actual assessment being £33,030.

3. *Undeveloped land duty* is imposed annually on the site value of undeveloped land at the rate of one halfpenny for every twenty shillings of that site value. Land is 'undeveloped' if it has not been developed by the erection of dwelling-houses, or of buildings for the purposes of any business, trade, or industry other than agriculture, or is not otherwise used *bonâ fide* for any business, trade, or industry other than agriculture. Besides agricultural land, which is exempt either wholly or partially, according to it
are exempt: L
acre occupied
ing-house; lan
vantage or convenience, *e.g.* parks and open spaces; crown lands, and land held for charitable purposes. The site value chargeable in 1910-11 was £4,958,402; and the duty assessed £10,330, the actual yield being only £1162; in 1911-12 the assessable site value was £12,118,560, the duty assessed £25,247, and the amount of duty actually paid £10,218.

4. *Mineral rights duty* is payable at the rate of 1s. in the £, in respect of the rental value of all rights to work minerals, and of all mineral wayleaves. It is assessed on the proprietor where he works the minerals, or in any other case, on the immediate lessor of the working lessee. Common clay, common brick clay, common brick earth, sand, chalk,

£298,982. It is to be observed that the yields were small in most cases owing to the uncertainty created by the High Court judgment in the case of Dyson *v.* Attorney-General, which decided that the form (called Form IV.) sent out by the Commissioners and requiring owner-occupiers, under a penalty for refusal, to state the annual value of their land, was *ultra vires*. The result was that millions of forms returned were useless, and a fresh form had to be drafted. The Commissioners now state that this valuation is progressing favourably, and that up to March 31, 1912, some 3,637,955 acres had been valued, and the estimated 'total value' was £614,605,705. But the total number of hereditaments to be valued is estimated at 11,000,000, of which only 2,218,317 have been valued so far. *See* Cox-Sinclair and Hynes, *Land Values*, 1910; Dowell's *Income Tax Laws*; Konstam's *Law and Land Values*, 1910.

Lane, Edward William (1801-76), an English Arabic scholar, began life as an engraver, but finding this profession too much for his health went abroad to Egypt (1825-28). On this occasion he explored the Nile and filled his portfolio with sketches. During his second visit (1833-35) he made Cairo his centre. Later (1842-49) he spent seven years in Egypt and conducted himself in every way like a true Oriental. Most of his time was spent in laborious research, of which the chief fruit was his monumental Arabic lexicon (1863-74), which he was obliged to leave unfinished at his death. It is based on the careful compilation of Sheikh Murtada, who lived in the preceding century. Other of L.'s works are: *Modern Egyptians*, 1836, and a

the United States Coast Survey until,

in 1851, he was appointed chief examiner in the patent office. From 1869 till his death he held a responsible position in the bureau of weights and measures. In 1870 he published his *Theoretical Temperature of the Sun*. Here he expounded his law that a gaseous mass, kept in equilibrium by the mutual gravitation of its parts, actually rises in temperature as it contracts, as it gains more heat by the contraction than it loses by radiation.

Lane, Richard James (1800-72), a line-engraver and lithographer, was elected an associate of the Royal Academy as early as 1827, the distinction being largely due to the excellence of his 'Red Riding Hood,' after Lawrence. Another famous line-engraving of his is a portrait of Princess Victoria at the age of ten (1829). His finest lithographs include portraits of George IV.'s cycle after Lawrence, and reproductions of the paintings of Landseer. Chantrey expressed admiration of his statue of Edward Lane (a brother).

Lanercost, a parish of N.E. Cumberland, England. Traces of the Roman wall are to be found. Lanercost Priory, founded in 1169 by Robert de Vallibus, governor of Carlisle, now forms part of the Church of St. Mary Magdalene. It is historically interesting. The *Chronicle of Lanercost*, 1201-1346, an important historical authority, was composed at Carlisle. Pop. (1911) 1128.

Lanfranc (c. 1005-89), Archbishop of Canterbury, born at Pavia, where he was educated for a legal profession. In 1039 he founded a school at Avranches, but three years later entered the Benedictine monastery at Bec and was chosen prior in 1046. He defended the doctrine of transubstantiation in the controversy raised by Berengar, afterwards publishing his theories in a tract *De corpore et sanguine Domini* (1079). William of Normandy appointed him prior of an abbey at Caen (1062), and after the Conquest created him primate of England (1070). L.'s works were published by d'Archéry in 1648. Consult edition of J. A. Giles (1844), and *Life* by Charma (1849) and Crozals (1877).

Lanfrey, Pierre (1828-77), a French historian, was expelled from the College of Chambéry because he attacked the Jesuits, his schoolmasters, and later studied law at Grenoble and Turin. His *L'Eglise et les Philosophes au XVIIIe Siècle* (1855) and his *Essai sur la Révolution française* (1857) at once gave him a position among contemporary men of letters. But his *magnum opus* was his *Histoire de Napoléon I.* (1867-75).

Lang, Andrew (1844-1912), a British man of letters, born at Selkirk in Scotland, and educated at the Edinburgh Academy, St. Andrews University, and Balliol College, Oxford. He took a first class in the final classical schools (1868), and was elected a fellow of Merton College. He then entered on a literary career, and soon established a reputation of being one of the most versatile of modern journalists. His earliest publication was a volume of dainty and graceful verse, *The Ballads and Lyrics of Old France* (1872), which were followed by *Ballads in Blue China*, 1880; *Helen of Troy*, 1882; *Ballads and Verses Vain*, 1884; *Rhymes à la Mode*, 1884; *Grass of Parnassus*, 1888; and *New Collected Rhymes*, 1905. His delightful selections of fairy tales began in 1889 with the publication of the *Blue Fairy Tale Book*, followed by others, all tastefully bound and illustrated, and written with classic simplicity, down to the *Olive Fairy Book* (1907). In the realm of folklore, Mr. L. produced sound scholarly work in his *Custom and Myth*, 1884; *Myth, Literature, and Religion* (2 vols.), 1887; and contributed to the study of primitive religion and anthropology in *The Making of Religion*, 1898; *Magic and Religion*, 1901; *Social Origins*, 1903; *The Secret of the Totem*, 1905.

As an historian Mr. L. was keenly interested in mysteries, to the unravelling of which he brought great ingenuity as well as a scholarly accuracy in detail. He brought fresh light to bear upon Mary of Scotland in *The Mystery of Mary Stuart* (1901), and *Portraits and Jewels of Mary Stuart*. He also contributed to the controversy on the Man with the Iron Mask (*q.v.*) in his *The Valet's Tragedy* (1903), interested himself in behalf of the Young Pretender in *Pickle the Spy* (1897), *The Companions of Pickle* (1898), *Prince Charles Edward* (1900), and made a collection of *Historical Mysteries*, published in 1904. His other historical works are *John Knox and the Reformation* (1905), and a *History of Scotland from the Roman Occupation* (begun in 1900). Mr. L. was also a classical scholar of high standing, which is testified in his Homeric studies, *Homer and the Epic* (1893), *Homer and his Age* (1906), in his translations of Theocritus, Bion, and Moschus (1880), *The Homeric Hymns* (1899), and in collaboration with S. H. Butcher, of the *Odyssey* (1879), and with E. Myers and Walter Leaf of the *Iliad* (1883). In 1888 he was elected the first Gifford lecturer of the University of St. Andrews. He edited the English Worthies Series,

the works of Scott, Burns, and Dickens, and the *Life and Letters* of J. G. Lockhart and Sir Stafford Northcote. He was at one time literary editor of *Longman's Magazine*, and up to the time of his death contributed t[illegible] various othe[illegible] writings, of a[illegible] each in its [illegible] merit, are too numerous to mention.

Lang, Cosmo Gordon (*b.* 1864), Archbishop of York, son of the late Very Rev. John Marshall Lang, D.D., principal of Aberdeen University. Educated at Glasgow University and at Balliol College, Oxford, he became a law student of the Inner Temple, and was ordained priest in 1891. He was curate of Leeds from 1890 till 1893, when he returned to Oxford as fellow and dean of divinity, Magdalen College (1893-96), and vicar of St. Mary's (1894-96). In 1896 Lord Salisbury appointed him vicar of Portsea, where he laboured till 1901, when he was appointed Bishop of Stepney and Canon of St. Paul's. In 1908 he was appointed to the archbishopric of York. His publications include: *The Miracles of Jesus, as Marks of the Way of Life*, 1900; *The Parables of Jesus*, 1906; *The Opportunity of the Church of England*, 1906.

Lange, Johann Peter (1802-84), a German biblical exegete, the son of a peasant of Sonneborn. After studying theology at Bonn, he was Protestant pastor to several parishes, and in 1854 accepted the chair of theology in his old university. Six years later he was appointed counsellor to the consistory. His first work of importance was *Das Leben Jesu* (3 vols. 1844-47), which was followed by the *Christliche Dogmatik* (3 vols. 1849-52), and his *Grundriss der Christlichen Ethik* (1878).

Langebek, Jacob (1710-75), a Danish historian, early applied himself to the study of history. His excellent translation of the Icelandic *Kristnisaga* brought him under the notice of Gram, who employed him in the royal library as his literary assistant. In 1748 L., following in Gram's footsteps, became record-keeper. Founder in 1744 of the Society for the Improvement of the Danish language, he assisted in the popularising of philology, but his most valuable work was connected with *Scriptores rerum Danicarum*, an exhaustive collection of mediæval records, which owed not a little to his assiduous research.

Langeland, or Long Island, a Danish island in the Great Belt between Fünen and Laaland, has an area of 106 sq. m. It is cultivated, and exports corn, flax, and timber, dairy produce, and fish. Rudkjöbing on the W. coast is the chief town. Pop. 20,335.

Langenbielau, a tn. in Silesia, Prussia, consists of five contiguous villages, Gross, Klein, Nieder, Ober, and Mittel L., 3 m. S.W. of Reichenbach. The chief manufs. are cotton and woollen goods, and there are limestone quarries. Pop. 18,864.

Langendreer, a com. in the prov. of Westphalia, Prussia, 7 m. S.W. of Dortmund. Pop. 26,390.

Langensalza, a *tn. in* the prov. of Prussian Saxony, is 13 m. N.W. of Gotha. The chief manufs. are textiles machinery, bricks, tobacco, and tin. In the neighbourhood are sulphur springs. The Prussians defeated the Hanoverians here (1866). Pop. 12,667.

Langenthal, a com. in the canton, and 24 m. N.E. of Bern, Switzerland; is a health resort, with mineral springs. Pop. 5948.

Langerfeld, a vil. in Westphalia, Prussia, is 2¼ m. E. of Barmen. It manufs. machinery, buttons, and lace. Pop. 14,801.

Langham, Simon de (*c.* 1310-76), Archbishop of Canterbury, born in Rutlandshire. He became prior and abbot of Westminster in 1349, and carried out important works in the Abbey, including the completion of the cloisters. In 1360 he was appointed treasurer of England, in 1362 elected Bishop of Ely, and in 1363 became chancellor. His period of office was marked by stricter legislation against the papal jurisdiction, and it is significant that he opened the parliaments of 1363 and 1365 by speeches delivered in English. In 1366 he was chosen Archbishop of Canterbury, and during his primacy is said to have removed John Wyclif from the headship of Canterbury Hall. This pleased the pope, and in 1368 he was made cardinal, leaving England in 1369 for Avignon where he died. His tomb is the oldest in Westminster Abbey.

Langholm, a market tn., Dumfriesshire, 22 m. N. of Carlisle. Langholm Lodge, close by, is the seat of the Duke of Buccleuch. It has famous sheep fairs, tanneries, and a distillery. It is noted for its tweed. Pop. (1911) 2930.

Langhorne, John (1735-79), a poet, born at Kirkby Stephen, Westmorland. He was educated at Appleby and Cambridge, and after filling several curacies became rector of Blagdon, Somersetshire, in 1766. He wrote for the *Monthly Review*, and published several volumes of popular poetry. His most important work is the translation of Plutarch's *Lives*, written in conjunction with his brother. He died at Blaydon.

Langkat, a port on the N.E. coast of Sumatra, near the frontier of

Atcheen. At the entrance to the harbour is a dangerous bar. The chief exports are tobacco and petroleum.

Langland, William (*c.* 1332-*c.* 1400), an English poet, the probable author of the allegorical alliterative poem, *The Vision of Piers the Plowman* and of *Richard the Redeless*. The *Vision* exists in about forty MSS., but there are three distinct versions known as the A, B, and C texts, each of which is divided into prologues and passus, and consists of a *Vision of Piers the Plowman* and a *Vision of Dowell, Dobetter, and Dobest*. B is nearly three times the length of A, and C contains a few hundred lines more than B. The evidence as to authorship is drawn almost entirely from internal evidence. In B xv. 148 is the line, 'I haue lyued in *lond*, quod I: my name is *longe Wille*,' and the Dublin MS. contains an entry concerning 'pater Willielmi de Langlond qui . . . morbatur in Schiptone under Whicwoode . . . qui prædictus Willielmus fecit librum qui vocatur Perys Ploughman.' Thus, it is deduced that William L. is the author and lived at Wychwood in Oxfordshire, near the Malvern Hills, which are frequently mentioned in the poem. From the references to current events, A must have been written by 1362, B by 1376-77, and C by 1392, or possibly 1398. Dr. Skeat has argued that L. also wrote the alliterative poem on Richard II., in which case he was alive in 1399. It had always been assumed that the B and C texts were later productions of A and written by the same hand, until Professor Manley, in his article in the *Cambridge History*, argued that the poem was the work of at least five men, basing his arguments on certain discrepancies between the three texts. His theory was attacked by M. Jusserand and by R. H. Chambers, and is not now generally accepted. The standard edition of *Piers Plowman* is that of Skeat (2 vols., Clarendon Press, 1886; new ed. 1905).

Langley, Samuel Pierpont (1834-1906), an American astronomer, born at Roxbury, Boston, Massachusetts, U.S.A. He was appointed professor of mathematics at the U.S. Naval Academy (1866), director of the Allegheny Observatory, Pittsburg (1867-87), and secretary to the Smithsonian Institution, Washington (1887-1906). He made a special study of aeronautics, and succeeded in showing the feasibility of mechanical flight. He carried out his experiments on the Potomac R., and after making several attempts with various machines, flights of over half a mile were made in 1896. L. invented the bolometer, with which he discovered, in 1881, the new spectrum, an extension of the invisible infra-red rays. He also observed the total solar eclipses of 1869, 1870, and 1878.

Langnau, a com. in the canton and 16 m. E. of Bern, Switzerland. It manufs. cheese, thread, and all kinds of woodwork. Pop. 8511.

Langreo, a tn. of Spain in the prov. of Oviedo. It is a hilly agricultural and fruit-growing place, and is also noted for its coal mines and iron industries. Pop. 19,000.

Langres (ancient *Andematunum*), a tn. in the dept. of Haute-Marne, France, 40 m. N.E. of Dijon. It is strongly fortified, contains a fine cathedral, and interesting Roman remains. Diderot was born here. It is celebrated for its manuf. of fine cutlery. Pop. 9800.

Lang-son, or Langshön, a tn. of Tongking, French Indo-China. It is 82 m. N.E. of Hanoi in the centre of a small plain on the Sunchi Kiang.

Langton, Stephen (*c.* 1150-1228), Archbishop of Canterbury, has rendered his life of vicissitudes famous by the strong stand he made on the side of liberty, whether king or pope were the oppressor. In the University of Paris he attained to a high rank by reason of his proficiency in theology and philosophy, and in 1207 was consecrated to his archbishopric by Pope Innocent III., who thus ignored the rival candidates. It was not till 1213 that L. was formally recognised by King John. At a meeting in St. Paul's (1214) he urged the confirmation of Henry I.'s charter, a suggestion which directly inspired certain of the barons to draw up the Great Charter, and in the following year was suspended from his see, as he flouted papal authority with regard to the excommunication of those barons who had fought for freedom.

Languedoc, a former province of France, which became united under one authority about the beginning of the 13th century. The name is Provençal and means 'the tongue of "oc,"' 'oc' being the southern form of the northern 'oui' (yes). In 1791 it disappeared, being replaced by the eight departments of Haute-Loire, Lozère, Ardèche, Aude, Tarn, Hérault, Gard, and part of Haute-Garonne.

Languet, Hubert (1518-81), a French Huguenot, writer and diplomatist, born at Vitteaux in Burgundy. He studied at the universities of Poitiers, Bologna, and Padua, and spent much time in travelling through France, Italy, Spain, Germany, Sweden, Finland, and Lapland. In 1559 he entered the service of Augustus I., Elector of Saxony, and showed great

ability in organising the Protestants. He represented the elector at the French court (1561-72), and was with him at the siege of Gotha (1567), about which he wrote *Historica Descriptio*. His speech on behalf of the Protestant princes in 1570, before Charles IX. of France, nearly cost him his life, and he narrowly escaped death on St. Bartholomew's Day, 1572. He was at the imperial court as representative of the elector (1573-77), after which he spent most of his time in the Netherlands. His writings, which consist chiefly of letters to Augustus of Saxony, the chancellor Mordeisen, Camerarius, and Sir Philip Sidney, are important for the history of the 16th century.

Lanidæ, *see* SHRIKE.

Lanier, Sidney (1842-81), an American poet and prose writer, made an heroic struggle against the ravages of consumption, which finally mastered him. He graduated with honour from Oglethorpe College, and on the outbreak of the Civil War joined the Confederate army. In 1864, whilst acting as a blockade runner, his ship was captured, and for five months he was confined in a Federal prison. Here his *flute*, which he had learned to play as a boy, helped to lessen the tedium of imprisonment. In 1873 he

[illegible]

poems as *The Marshes of Glynn* and *The Revenge of Hamish* entitle him to the second place after Poe among the poets of the S., whilst the *Science of English Verse* (1880) exhibits his mastery over prose, and his *Letters* (1899) illustrate the charm of his personality and his Stevensonian pluck.

Lankester, Sir Edwin Ray (*b.* 1847), a natural historian, was a student at Downing College, Cambridge, and Christ Church, Oxford. Fellow and lecturer of Exeter College (1872), he accepted in 1874 the chair of zoology and comparative anatomy at University College, London. In 1890 he gave up his work in London, and for the seven years following, lectured on comparative anatomy at Oxford. His next appointment was the directorship of the natural history departments in the British Museum (1898-1907). Founder and president (1892) of the Marine Biological Association, he held, in 1896, the vice-presidency of the Royal Society. Since 1869 he has edited the *Quarterly Journal of Microscopical Science*, and has issued a treatise (1900-9) besides numerous monographs on zoology.

Lanman, Charles Rockwell (*b.* 1850), an American Orientalist and professor of Sanskrit, born at Norwich, Connecticut, U.S.A. He graduated at Yale in 1871, was professor of Sanskrit at Johns Hopkins University, Baltimore (1876-80), and since 1880 at Harvard University. In 1889 he went to India and collected over 500 Sanskrit and Prākrit MSS. for Harvard. He was secretary and editor of the *Transactions* (1879-84), president of the American Philological Association (1889-90), corresponding secretary of the American Oriental Society (1884-94), of which he was elected vice-president (1897-1907) and president (1907-8). Among his publications are *A Sanskrit Reader and Vocabulary* (1884-88), contributed to the Harvard Oriental Series, and many translations of Sanskrit and Prākrit dramas and stories.

Lannes, Jean, Duke of Montebello (1769-1809), a French marshal, was one of Napoleon's greatest generals: 'I found him,' said the emperor, 'a dwarf, and lost him a giant.' Born of humble parents, he was bred to the dyer's trade, but in 1792 joined the army. No time was ever more auspicious for the rapid rise of any youth of talent. According to Bonaparte he fought in 54 battles and 300 combats, among them being Montenotte, Millesimo (1796), Aboukir (1797), Châtaillon, Montebello, and Marengo (1800), Wertingen and Austerlitz (1805), Jena (1807), Tudela (1808), and Eckmühl (1809). The finest thing [illegible] ever did, after his defeat of the Austrians at Montebello, was his brilliant assault of Saragossa (1809). His fall at the battle of Essling was a disaster which Napoleon was the first to appreciate.

Lannion, a river port in the dept. of Côtes-du-Nord, France, on the Guer, 54 m. E.N.E. of Brest. It has a harbour, fisheries, and considerable trade. The manufs. are linen, leather, rope, etc. Pop. 5800.

Lanolin is manufactured by mixing three fluid ounces of water with seven ounces of neutral wool-fat, styled in pharmacy *adeps lanæ*, which is Latin for 'wool-fat.' When sheep's wool is being prepared for spinning, 'brown grease' or 'dégras' is extracted. After purification this is a clear oily substance, which is often compounded with vaseline or other ointments, as it is easily rubbed into the skin. Its commercial name is lanolin. Many emulsions have this grease as one of their constituents.

[illegible] (*b.* 1859), an Eng- [illegible] Bow and [illegible] at Hales- [illegible] his brief career as a *legislator* he was somewhat of a 'stormy petrel.' He was noted for his almost single-handed opposition to the National Insurance

Act, and for his championship of Women's Suffrage, on which issue he resigned (and lost) his seat.

Lansdown, an eccles. par. in the [illegible] l. It [illegible] nd is [illegible] take [illegible] 2 m. from the town. Pop. (1911) 2000.

Lansdowne, Henry Charles Keith Petty-Fitzmaurice, fifth Marquis of (*b.* 1845), a British statesman, was a favourite pupil of Dr. Jowett at Balliol College, Oxford. When he first interested himself in politics he joined the Liberal party and served the government as Lord of the Treasury (1869-72), Under-Secretary for War (1872-74), and Under-Secretary for India (1880). In 1888, after holding the office for five years, he gave up the governor-generalship of Canada, and became viceroy of India (until 1893). When Mr. Gladstone introduced Home Rule for Ireland, he went over to the Liberal-Unionist party. From 1895 to 1906 he was once more a member of the cabinet, at first as Secretary for War (until 1900), and afterwards as Foreign Secretary. Since Lord Salisbury's death he has been Unionist leader in the House of Lords. In 1894 he became a trustee of the National Gallery.

Lansdowne, Henry Petty-Fitz-Maurice, third Marquis of (1780-1863), an English statesman, one of the most prominent and influential members of the Whig party in his time. A fellow member with Brougham and Sidney Smith of the Speculative Society of Edinburgh, he left the university of that city and went to Trinity College, Cambridge, where he graduated as M.A. in 1801. Having early enter[illegible] a member of [illegible] ministry of 'All the Talents' (1806-7). Throughout his public life he was a zealous advocate of Free Trade, the abolition of slavery, and Catholic emancipation. It was his enlightened views on this last question which lost him his seat for Cambridge University (1807). President of the Council from 1831-41, and again from 1846-52, he assisted in the passage of the Reform Bill (1832), and refused the premiership and a dukedom.

Lansdowne, William Petty, first Marquis of (1737-1805), an Irish statesman, attended Christ Church, Oxford, and later joined Wolfe's regiment. In 1760 he rose to colonel, having greatly distinguished himself during the Seven Years' War at Minden and Kloster-Kampen, and in the same year entered parliament. In his principles he was closely associated with Pitt, whom he supported on the question of Wilkes' expulsion. When Pitt became premier, Earl Shelburne, as he then [illegible] ship of sta[illegible] years later [illegible] in a policy [illegible] American [illegible] in 1782 he [illegible] tion of Fox and North secured his speedy downfall.

Lansford, a bor. of Pennsylvania, U.S.A., in Carbon co., 4 m. N.E. of Tamaque. It has important coal mines. Pop. (1910) 8321.

Lansing, a city of Michigan, U.S.A., in Ingham co., situated on elevated land on both sides of the Grand R., 68 m. S.S.W. of Bay City. It is an important manufacturing centre, owing to its fine water power, and has a state blind school and agricultural college. Pop. (1910) 31,229.

Lansingburg, a tn. of New York, U.S.A., in Rensselaer co. It is situated on the Hudson R., opposite the mouth of the Mohawk R. There are manufs. of brushes, oil-cloth, and clothing. It now forms part of Troy.

Lantern, in architecture, an ornamental turret erected on the roofs or domes of churches for the purpose of ventilating and giving light. They are most commonly octagonal in shape and with glazed or unglazed windows. Lanterns may be found in England, at York and Ely; in France, at Coutances and St. Ouen; in Spain, at Salamanca.

Lantier, Etienne François de (1734-1826), a French writer, born at Marseilles. His comedy, *L'Impatient*, which appeared in 1778, met with some success, and thus encouraged, L. threw himself into literary work with great ardour. His *Voyages d'Anténor*, for which he collected materials from the Academy of Marseilles, was enormously popular, and was translated into many European languages. His other w[illegible] [illegible] *en Suisse*, [illegible] *respondar*[illegible] nd *Geoffroy*, [illegible] a poem in eight cantos, composed at the age of ninety-one.

Lanuvium, or **Lanivium**, an ancient city of Italy, situated about 20 m. S.E. of Rome, and southward of the Via Appia. It stood upon a hill, from which was obtained an extensive view of the surrounding country, and had a celebrated temple of Juno. The present village is noted for its vineyards.

Lanza, Domenico Giovanni Giuseppe Maria (1815-82), an Italian politician, practised medicine for some time at his native place, Casale in Piedmont. He played a considerable part in the institution of the agrarian society of Turin, and also in the revolution of 1848. Having supported the policy of

Cavour in the Piedmontese parliament, he served (1855 and 1858) in the cabinet of that minister, and in 1860 (and again in 1869) became president of the Chamber. L. was

order being suppressed, he became keeper of the galleries of Florence (1775), and henceforward devoted his life to literature and the study of antiquities. His *Storia Pittorica della Italia* (completed in 1796) has been widely translated, and in that it was the first attempt to treat the schools of painting with historical sequence, is a landmark in art criticism. L. wrote also on the language and vases of ancient Etruria.

Laoag, a tn. and port of Luzon, Philippine Is., in the prov. of Ilocos Norte. It is situated on the Laoag R., and includes the municipality of San Nicolás. There is a shipping trade in rice, Indian corn, sugar, and tobacco; cotton is extensively grown in the district. Pop. 36,000.

Laocoon, in Greek legend, a priest of Apollo, who incurred the anger of that deity by his marriage and also by the solemn warning he delivered to the Greeks against admitting the treacherous wooden horse within the walls of Troy. Accordingly the vindictive god drove two huge serpents out of the sea to the altar of Poseidon at which L. with his two sons was officiating. The ghastly story of their death agonies, as the monsters coiled themselves about their limbs, forms one of the most tragic and vivid episodes in Virgil (*Æneid*, ii. ll. 199 *et seq.*). The contortions of father and sons are further illustrated in the famous 'Laocoon' group of the Vatican, which was discovered in 1506 near the baths of Titus. Pliny tells us it was fashioned by three Rhodian sculptors, Polydorus, Agesander, and Athenodorus. Curiously enough, Lessing, when in his *Laokoon* he was discussing the limits of sculpture and poetry, chose this group as a type of excellence in statuary, although archæologists now agree in assigning it to the decadent period of Greek art.

Laodamia, a pathetic figure in Greek heroic legend. She was the daughter of Acastus and the wife of Protesilaus. When her husband was struck down by a Trojan and slain in the very act of landing from his vessel, she prayed the gods to restore him to life, if only for three hours. The boon was granted, but, as Wordsworth tells, L. died and went with her husband on his second journey down to Hades.

Laodicea, the name of several cities most of which were founded by the Seleucid kings of Syria. The founder of the dynasty, Seleucus, is supposed to have named five of them after his mother, Laodice. The chief cities so called are: 1. *Laodicea ad Lycum*, on the banks of the Lycus in Phrygia, m. S. of Hierapolis. It is supposed to have been founded by Antiochus II. (261-246 B.C.). It is famous as one of the seats of early Christianity, and, being favourably placed on the road leading from the Ionian cities to the Euphrates, it became a great commercial centre. In early times there was a medical school here, and a school of Sceptic philosophers. It was destroyed by an earthquake during the reign of Nero, but was rebuilt. Afterwards its prosperity declined owing to Turkish invasions, and it is now a pile of ruins, known as Esk-Hissar. 2. *Laodicea Combusta*, in Lycaonia, on the borders of Phrygia and Pisidia, modern Sorgan Ladik. 3. *Laodicea ad Mare*, named by Seleucus Nicator about 300 B.C. It is on the coast of Syria, about 75 m. N. of Tripoli, modern Latakia. Consult W. M. Ramsay's *Cities and Bishoprics of Phrygia*, 1895-97.

Laomedon, the son of Ilus, and the father of Priam, appears in Greek legend as King of Troy. Poseidon built his city walls and Apollo tended his flocks. But the faithless ruler denied them their hire. Accordingly the sea-god despatched a dragon to lay waste his country, and Apollo sent a plague. Finally, L. was slain by Heracles. The demi-god had rescued the king's daughter, Hesione, who was to have been sacrificed to Poseidon, and had not received the promised reward.

Laon, a city of France and cap. of the dept. of Aisne, situated on a limestone rock, rising 650 ft. from the plain. On March 1814 a battle was fought here between the allies under Blücher and Napoleon I., the latter being defeated. L. was a place of importance under the French kings. The manufactures are nails, leather, earthenware, biscuits, etc., and there are numerous vineyards. Pop. 15,000.

Laos, a general term for the French territory of Central Indo-China. The country is watered by the Mekong and its affluents, the Nam-Hon and Nam-Ta, and by the Menam and Salwin. The French protectorate dates from 1893. The country is divided into twelve provinces, the affairs of each being administered by a commissioner, assisted by a council of nobles, elected by the people. The population consists of

Thais, Khas, and various mixed Indian and Chinese races. The chief products of the soil are tobacco, cotton, rice, maize, and indigo. Gold, copper, tin, etc., are found, but are not exploited to any great extent. The most important industry is cattle-raising. Area 100,000 sq. m. Pop. 650,000. *See* Gosselin, *Le Laos et le Protectorat français*, 1900, and L. de Reinach, *Notes sur le Laos*, 1906.

Lâo-Tsze, a Chinese philosopher, was the author of *Tâo Teh King*, a treatise not half as long as the Gospel of St. Mark, yet one which has exercised the interpretative faculty of many learned commentators. According to Sze-ma Ch'ien (c. 100 B.C.) L. was born in 604 B.C. and was keeper of the royal library at the court of Chow in the province of Ho-nan. In 517 B.C. he had an interview with Confucius, and in his old age, when the dynasty he served was growing weak, he left the royal domain and went into 'the regions beyond.' 'The Venerable Philosopher'—for such is one meaning of his name—taught the beauty of action free from selfish motive and having as an end only its own accomplishment: the world must roll on 'without striving or crying,' according to Tâo, which is the 'Way' or 'Word' (compare *Logos* of the N.T.). He inculcates the virtues of compassion and humility and the Christian doctrine of requiting good for evil, yet he was ever looking away from culture and back to the days of barbarism for his ideals. The polytheistic Tâoism has little to do with his ethics.

La Pampa, a ter. in the Central Argentine Republic, bounded by the Rio Colorado on the S. The surface is varied, with extensive forests, numerous streams and lakes, and fertile pasture lands. The capital is Acha. Area 56,300 sq. m. Pop. 90,000.

Laparotomy, in surgery, the operation of cutting through the abdominal wall, particularly by way of the flank or loin. It is frequently performed in order to enable the surgeon to discover by feeling the real cause of an intestinal disorder, and in the hands of a capable operator is not dangerous.

La Paz: 1. A dept. of North-Western Bolivia. An extensive plateau forms the N. portion, while it is mountainous in the S. Only potatoes, barley, and quinoa grow in the western regions, which are watered by the Titicaca, and include part of Titicaca Lake. Eastward wheats, Indian corn, and fruits grow in plenty, whilst southward tobacco, sugar-cane, cacao, oranges, and other tropical products are freely cultivated. Illimani Sorata and other lofty peaks crown the Cordillera Real, whose main spurs run from N.W. to S.E. The celebrated Corocoro copper mines lie near the Desaguadero R., whilst the profitable tin mines of Huayna Potosi and Chocoltaga are within easy distance of La Paz, the capital. Area 53,777 sq. m. Pop. (1910) estimated at 516,914. 2. A tn. on the Rio de la Paz, 30 m. S.E. of Lake Titicaca. It was founded in 1548, and since 1898 has been the capital of Bolivia. It lies 12,120 ft. above the sea, and has a short and cold summer season, which accounts for the prevalence of pneumonia and other lung diseases. The cathedral was begun in the 17th century and is still unfinished, although La Paz has been the seat of a bishop since 1605. The town is connected by rail with the Pacific by two lines. Pop. 78,856. 3. A tn. in the Entre Rios prov. of Argentina, situated on the Paraná, 530 m. N. by W. of Buenos Ayres by river. Pop. 9000. 4. A tn. on the Rio Tumuyan, 75 m. S.E. by E. of Mendoza in Argentina. Pop. 4000. 5. The cap. of Lower California, Mexico. The tn. is tastefully laid out, has an excellent harbour in the bay of La Paz, and does considerable trade in silver and agricultural produce. Pop. (1910) 5500.

Lapis Lazuli, a highly prized ornamental stone of an azure colour, the sapphire of the ancients. A favourite stone with the Egyptians for amulets and ornaments, such as scarabs, and also used by the Assyrians and Babylonians. L. L. usually occurs in compact masses of a granular structure; the mineral is opaque, with slight transparency at the thin edges. It has a hardness of 5 to 5·5 and a specific gravity of 2·45. Mosaics, engraved gems, vases, and other ornaments have been made from L. L., and it is especially esteemed in Italy and Russia, where magnificent examples of its decorative use are to be seen in the columns of St. Isaac's Cathedral, St. Petersburg. L. L. occurs in Badakshan, part of Siberia, and in the Andes.

Lapithæ, The, were a mythical race of people inhabiting the mountains of Thessaly. Pirithous, son of Ixion, and half brother of the Centaurs, governed them. The legend runs that upon his marriage with Hippodamia, the Centaurs tried to carry off his bride and the other women. A fierce battle ensued, in which the L. were victorious. A symbolical meaning has been attached to this struggle, typifying the conflict between the Greeks and Persians.

Laplace, Pierre Simon, Marquis de (1749-1827), a French mathematician and astronomer, born in humble circumstances at Beaumont-en-Auge,

near Trouville, Normandy. As a youth he taught mathematics in a military school at Beaumont, and in 1767, through the influential assistance of D'Alembert, was appointed professor of mathematics in the Ecole Militaire, Paris. In 1796 he published his *Exposition du Système du Monde*, in which he stated the chief astronomical facts and theories, and in a note at the end expounded his famous *nebular hypothesis*. His *Traité de Méchanique Céleste* made him world-famous. Apart from his extraordinary analytic skill and far-sighted scientific sagacity, L. had a pure literary style which places his works on a level with Newton's *Principia*. His other treatises include *Théorie* and *Théorie lités*, 1812-20. were issued *See* Fourier's *Eloge*, 1831, and Arago's *Annuaire du Bureau des Long*, 1844.

Laplace's Equation, a partial differential equation in connection with the theory of attractions discovered by P. S. Laplace. By his discovery that the attracting force in any direction of a mass upon a particle could be obtained by the direct process of differentiating a single function, he made an important addition to every branch of physics, and more particularly heat, electricity, and magnetism. C. F. Gauss employed it in the calculation of the magnetic potential of the earth, and Clerk Maxwell's interpretation of harmonics with reference to poles on the sphere threw new light upon it. *See* SPHERICAL HARMONICS.

Lapland, the name applied to an extensive region of Northern Europe, inhabited by the Lapps. It has no political existence, and covers territory in Norway, Russia, and Sweden, the first and the last portion consisting of bold headlands and fjords, deep glaciers, long mountain lakes, and lake-fed rivers. Russian L. is similar to the low-lying parts of Swedish L., but the surface is more level; marshes and the barren tundras of the Arctic Ocean become more frequent, and forests of fir and spruce trees abound. The climate is of a typical Arctic nature. For seven or eight weeks in winter the sun does not rise above the horizon and comparative darkness prevails except when the aurora borealis illuminates the snow-covered landscape. The cold is excessive. The summer lasts during three months, and is comparatively hot. L. gives little scope for husbandry, but the fisheries are important, and there are extensive copper mines and iron deposits. The Lapps mostly live a nomadic life, fishing and hunting. The reindeer supplies most of their needs, providing them with flesh, milk, and garments (made from its skin), and acting as a beast of burden. Shortness of stature is their chief characteristic, and they have high cheekbones, wide mouths, small elongated eyes, and snub noses. They are a quiet, inoffensive people, and crimes of violence a[illegible] Their imagin[illegible] and they are [illegible] religious impressions of a sensational character. Their early reputation for divination and magic is not yet extinct in Finland. Modern civilisation is nowadays affecting them in many ways, and they all profess Christianity. The number of Laplanders is not supposed to exceed 30,000—about 20,000 in Norway, 7000 in Sweden, and the rest in Russia. From the 13th to the 17th century they were practically in a state of slavery under the Swedish adventurers, the Birkarlians, but at the present they are treated with kindness and consideration by both Scandinavian governments. *See* G. von Düben, *Om Lappland och Lapparne*, 1873; Sir A. de Brooke, *A Winter in Lapland*, 1827; and E. Rae, *The White Sea Peninsula*, 1882.

La Plata, the cap. of the prov. of Buenos Ayres, Argentina, 30 m. E.S.E. of the city and 5½ m. from the coast, with which it is connected by railway and the port Ensenada. It was founded in 1882, and has grown into a city with a population of about 95,000. It has fine government buildings, theatres, a library, and a racecourse, also a large museum rich in geological and archæological collections.

Lapo, Arnolfo di (c. 1232 - c. 1300), an Italian architect and sculptor, born near Florence, the pupil of Ciamabue in design. His greatest work is the Duomo or Cathedral of Florence, left unfinished, and he also began to erect the church of Santa Croce in Florence, and the Palazzo del Podesta (1250). An [illegible] is to be seen [illegible] basilica of *Lives of the* [illegible] [illegible] diana in La [illegible] ted 46 m. [illegible] e are beautiful lakes to the N. of the city, and it is frequented as a summer resort. Pop. (1910) 10,525.

Lappa, a treaty port of China, at the entrance of the Canton R., opposite Macao.

Lappmark, the name of five districts or marches in N. Sweden

inhabited by Lapps. They are known under the names of Asele, Umea, Pitea, Lulea, and Tornea, and cover an area of 44,667 sq. m. Pop. 6800 (all Lapps).

Lapps, *see* LAPLAND.

Lapse. A device of real estate and a bequest of a legacy are said to L. where the devisee or legatee died in the lifetime of the testator. But by the Wills Act, 1837, no L. occurs: (*a*) When the donee is a child or other issue of the testator and dies leaving issue at the testator's death; and (*b*) when the gift is of an estate tail (*see* ESTATE, ENTAIL) and the tenant in tail leaves issue living at the testator's death capable of inheriting under the entail. In both (*a*) and (*b*) the property passes just as if the donee had died immediately after the testator. Lapsed legacies fall into the residuary estate.

Lar, or Laar, the cap. of the prov. of Laristan, Persia, 120 m. W.N.W. of Bender Abbas. Manufs. tobacco, cotton, silk, etc. Pop. 10,000.

Lar, or Lars, an Etruscan word meaning lord, king, or hero. It was employed as a prænomen and borne by Porsena (Lars Porsena of Clusium), Tolumnius, and others. *See* Müller and Deecke's *Die Etrusker*, 1877.

Laraiche, or El Araish (the garden of pleasure), a fortified seaport town of Morocco in Africa, overlooking the Atlantic Ocean, 45 m. S.S.W. of Tangier. There are ten military forts. The town has a spacious market-place. Pulse, beans, wheat, wool, hides, and wax are exported. Pop. 15,000.

La Ramée, *see* OUIDA.

Laramie: 1. The cap. of Albany co., Wyoming, U.S.A., 40 m. N.W. of Cheyenne on the Union Pacific Railway. Has an altitude of 7000 ft., and is enclosed by mountains and in the midst of picturesque scenery. Contains the Wyoming University, and has manufs. of glass, leather, flour, etc. Pop. (1910) 8237. 2. A river in Colorado, flowing N.E. through South-Eastern Wyoming; about 200 m. long, and drains part of Laramie county.

Laramie Strata, appearing in the intermediary age between the Cretaceous and Tertiary, containing seams of lignite. They are well developed in Utah and Wyoming.

Larbert, a par. and vil. of Stirlingshire, Scotland, on the Carron, 8 m. S.E. of Stirling. Coal-mining is extensively carried on. Pop. (1911) 1500.

Larboard, an obsolete nautical term, referring to the 'port' or left hand side of the ship facing the head, while starboard refers to the right hand side.

Larceny, or Theft, the wilfully wrongful taking possession of the goods of another against his will and with the intention of depriving the owner of his property in them. L. is either simple or compound, the latter being theft accompanied by circumstances of aggravation, *e.g.* robbery with violence, theft by a public servant. L. is distinguishable from: (*a*) False pretences, in that *possession only* is obtained, while in the latter crime the owner intentionally parts with his *right of property* as well, although induced so to do by some false representation; and (*b*) embezzlement, in that L. by a clerk or servant connotes the stealing of property which at the time is in the actual possession of the master, while in embezzlement the property is intercepted. Only personal goods can be the subject of L. There were formerly a great number of things, like trees, plants, deeds, fixtures, coal from a mine, chattels real (*q.v.*), choses in action (*q.v.*), wills, animals *feræ naturæ* (*i.e.* wild or unreclaimed) and dogs, or other domesticated animals not ordinarily used for food, which at common law could not be the subjects of L. The theft of most of these things is now, however, punishable as for simple L., while the theft of coal or other ore from mines, wills, records, and deeds is met with much heavier punishment than L., that of wills being punishable to the extent of a life term of penal servitude. If the taking is *bonâ fide* under some colour of right, it might ground a civil action in trespass (*q.v.*), but would not be larcenous. If the goods are taken by a trick, the owner not intending to part with the ownership of the goods, it is L., *e.g.* A gets half a dozen pairs of boots sent to him ostensibly for the purpose of buying one selected pair and then converts all of them to his own use. *Welshing* is a common form of L. by trick. To constitute L. there must be a complete *physical taking* (called asportation). This, however, is in law interpreted to mean merely that the goods must have been bodily displaced as distinguished from being merely handled, or if attached or connected in some way (*e.g.* watch and chain) completely severed. It is not essential that the taking be for the sake of gain, *e.g.* to take a man's motor car and run it into a deep river merely to spite him is L. if done with intent permanently to deprive the owner of his property.

Larch, the common name given to species of *Larix*, a genus of coniferous plants found in northern parts of Europe, Asia, and America. The plants are hardy trees, much resembling species of *Cedrus* in habit,

but they are not evergreen, and the cones ripen in one year. The wood is hard and tough, the leaves are bright green in colour and linear in shape, and the flowers are monœcious. *L. Europœa*, the common L., grows to a height of 100 ft., and is valued for its wood, its bark used in tanning, and for the turpentine which it yields. *L. pendula*, the black L., is common in America.

Lard, the fat of the hog melted down and strained, and the best quality is prepared from the leaf or fat of the bowel and kidneys. L. should contain about 60 per cent. of olein, and 40 per cent. of palmitin and stearin. Adulteration is frequently resorted to in the manufacture of this commodity, the stearin of beef or mutton being used. The best quality of L. is used for making oleomargarine, whilst the inferior sort is used for making candles.

Lardner, Dionysius (1793-1859), an author, became professor of natural philosophy and astronomy in London University in 1827. He is best remembered as the originator and editor of the *Cabinet Cyclopædia*, a collection of works by distinguished authors, which, started in 1829 and completed twenty years later, embraced 123 volumes. The contributors included John Forster, Mackintosh, Thirlwall, Scott, Moore, and L. himself. L. also edited a Cabinet Library (9 vols.), 1830-32, and the Edinburgh Cabinet Library (38 vols.), 1830-44. L. was the author of seventeen works, mainly on his special scientific subjects.

Lareau, Edmond (1848-90), a Canadian politician of French extraction, entered the bar in 1870, and was appointed six years later professor of law in M'Gill University. Ten years later he was elected to the provincial legislature. He wrote *Histories of Canadian Law* as well as *Mélanges Historiques et Littéraires*.

Laredo: 1. A city of Texas, U.S.A., and the cap. of Webb co., 150 m. S.S.W. of San Antonio. It is a garrison town, and a port of entry on the Rio Grande. There is considerable trade with Mexico, and the industries include smelting and car works, cattle raising and fruit growing; it is specially famous for early and Bermuda onions. Pop. 14,855. 2. A fortified seaport Spain, in the prov. S.E. of the cap., coach road to Bilb. are manufactured, and fish preservation is carried on. Pop. 5750.

Lares, The, Roman tutelary deities, originally gods of cultivated fields, worshipped by each household. From early times a distinction existed between public and private L., the latter being worshipped by families ing district of the town and country in which they were situated. They had a special annual festival with public games. In the later period of the republic they are confounded with the Penates, though in earlier times there was a marked distinction between the two. The name seems to be identical with the Etruscan *lar*, king, lord. *See* G. Wissowa, *Religion und Kultus der Römer*, 1902.

Largo, a par. and market tn. of Fifeshire, Scotland, situated on Largo Bay, 3 m. from Leven. The town consists of two villages, Upper Largo, containing the principal buildings, and Lower Largo, a summer resort and fishing village with a small harbour. Pop. of par. (1911) 2274.

Largo and Larghetto, an Italian term in music used as a direction for the style in which a piece of music is to be played. It is generally understood to mean slow, broad, solemn, but it rather indicates a dignified expressive style. Larghetto is the diminutive of largo, meaning a little quicker than the latter.

Largs, a par. and watering-place of N. Ayrshire, Scotland, situated on the Firth of Clyde, 12 m. S.S.W. of Greenock. There is a small harbour, which affords good anchorage for yachts. Pop. (1911) 3300.

Lari, a market tn. of Italy, in the prov. of Pisa, 14 m. N.E. of Leghorn. Pop. 13,000.

Laricio, *see* PINE.

Laridæ, *see* GULL.

Larino, a tn. of Italy in the prov. of Campobasso, on the R. Biferno. It suffered destruction by an earthquake in 1300. Pop. 7000.

La Rioja, *see* RIOJA.

Larissa, the chief tn. of Thessaly in ancient Greece. It is now the cap. of the prov. of Larissa, and stands on the r. b. of the R. Salambria (ancient *Peneus*), and is 35 m. N.W. of Volo. L. was under Turkish authority until 1881, when it became ceded to the Greeks. There are still evidences of its Turkish occupation in the mosques, and Mahomgrounds. L. lies not Homeric Argissa, and name applied to other Pelasgian it signified a fortified town or Pop. 16,000.

Laristan, a maritime prov. in Persia, on the Persian Gulf. Its cap. is Lar. It is for the most part desert land. Salt and silk form the chief products. Area (est.) 20,000 sq. m.

La Rive, Auguste de, *see* RIVE.

Larivey, Pierre (*c.* 1540-1612), a French dramatist, descended from the Giunta, the famous Florentine and Venetian printers. He became canon of the church of St. Etienne. His comedies were rather adaptations from Italian plays than works of creative art. His principal work, *Comédies Facétieuses*, appeared in 1579.

Lark, the popular name given to the species of Alaudidæ, a family of passerine birds inhabiting the Indian, Palæarctic, and Ethiopian regions, *Otocorys* being the only American genus, and *Mirafra* the only Australian one. *Alauda avensis*, the familiar British skylark, nests in a hollow in the ground, usually among grass or cereals. Its rapid, pleasing trill is generally uttered while the bird is soaring, and occasionally it emits a plaintive call. *A. arborea*, the woodlark; *A. cristata*, the crested lark; and *A. alpestris*, the shore lark, belong to the same family.

Larkhall, a tn. of Lanarkshire, Scotland, 3 m. S.E. of Hamilton, with collieries, bleach-works, and a silk factory. Pop. (1911) 14,202.

Larkhana, a fortified tn. of Bombay, India, in the prov. of Sind and the dist. of Shikarpur. The surrounding country is probably the finest tract in Sind, and L. is a trade centre, with important manufs. of leather, cotton, silk, metal ware, and paper. Pop. 13,000.

Larkhill, the aerial station of the No. 3 Royal Squadron Flying Corps on Salisbury Plain, about 15 m. N. of Salisbury, Wiltshire, England.

Larkspur, *see* DELPHINIUM.

Larnaca, or **Larnaka**, the principal port of the island of Cyprus, in the Mediterranean Sea. There is a pier 450 ft. in length, and excellent anchorage is afforded. The town is the ancient Citium, and numerous objects of antiquarian interest are to be found. Pop. 8000.

Larne, a par., seaport, and market tn. of Antrim, Ireland. The port has become one of the chief passenger ports of the country. The market-place covers over an acre of ground, and there are linen and woollen manufs.; an extensive trade is carried on in lime, ironstone, flour, dairy produce, and linen. Pop. (1911) 6700.

La Rochefoucauld, François, Duc de (*1613-80*), most accomplished of the maxim and memoir writers of France, born at Paris. Bore the title of Prince de Marsillac. Joined the army at an early age, and soon began to make a figure in public life, becoming engaged in intrigues against Richelieu, and in the plots of the Fronde. He was severely wounded at the siege of Paris and again at the fight at the Port Saint-Antoine in 1652. He then retired to the country for a short time, but returned to court before the death of Mazarin and became a prominent leader of the literary salon of Mme. de Sablé. In 1665 he published his famous *Maximes* anonymously, and under the title of *Réflexions ou Sentences et Maximes morales*. They passed through five editions in the author's lifetime, and are as remarkable by their literary excellence as by their acuteness of thought. His *Mémoires* were published in 1817, and are among the best of a time rich in writings of this kind. His *Lettres* are also of great historic and social interest. Rochefoucauld's *Œuvres Complètes*, edited by Gilbert and Gourdault, appeared in 1868-84. There are numerous editions of the *Maximes*, the finest being the Edition des Bibliophiles, 1870 (Eng. version by G. H. Powell, 1903). *See* Lives by Bourdeau and Hémon.

La Rochelle, *see* ROCHELLE, LA.

La Roche-sur-Yon, formerly called **Napoléon Vendée**, a tn. and cap. of the dept. of Vendée, France, on the R. Yon, 40 m. S. of Nantes. Pop. 13,700.

Larousse, Pierre Athanase (1817-75), a celebrated French lexicographer, born at Toucy. His fame rests principally on his *Grand Dictionnaire universel du XIX^e^ Siècle*, a vast compilation of fifteen volumes of a discursive and entertaining rather than a scholastic and critical nature, which had an enormous success. He also wrote various text-books, his aim being to aid the pupil to think for himself rather than to depend on his memory. Other works are *Nouveau Dictionnaire*, and *Dictionnaire complet illustré*. L. also founded a journal of instruction, *L'Ecole normale*.

Larva (Lat., a ghost, a mask), the name applied, first of all by Linnæus, to the young form of any animal which has left the egg and which at that stage does not resemble the parent. It is given more particularly to insects, but refers also to tadpoles of frogs, nauplii and zoeæ of crustaceans, the young of echinoderms, etc. The larvæ of Orthoptera and Hemiptera bear a strong resemblance to the imago, or perfect insect, except in the possession of wings, and the metamorphosis is slight. Lepidoptera in the larval form possess a head, legs, and prolegs, and are popularly known as caterpillars; the larvæ of Coleoptera, which have heads and may or may not have legs, are called grubs; and those of Diptera, which are legless and frequently without a head, are called maggots.

Larvik (Norway), *see* LAUVIK.

Laryngismus stridulus, a spasmodic affection of the larynx that occurs in

young children. It may attack rickety or nervous children, but is especially associated with adenoids. It is characterised by a sudden arrest of respiration, the child becomes blue in the face owing to imminent asphyxiation, and breathing is resumed by long crowing inspirations. The cause of these attacks is somewhat obscure; it consists of a reflex spasm of the glottis, and may or may not be accompanied by a preliminary catarrh. The attacks are likely to be recurrent, or may cease without any obvious reason. [illegible] usually [illegible] ination, is very [illegible] patient should be examined for adenoids, and these should be removed if present.

Laryngoscope, an instrument by which the condition of the larynx may be observed. It consists of a small mirror attached to a long handle at an angle of about 120°. The instrument is first warmed to prevent obscuration by the condensation of moisture, and then introduced into the throat with its back against the soft palate and uvula. At the same time a strong light is directed against the mirror from a lamp placed on the shoulder or forehead of the observer, so that the light is reflected towards the larynx and back again to the *mirror. By this means the extent of* laryngeal inflammation or the presence of foreign bodies can be determined and suitable treatment decided upon. The instrument was first used by Manuel Garcia to examine the state of the larynx in singing, and was adapted to medical purposes by Dr. Czermak of Pesth.

Larynx, the organ of voice, situated in the upper and front part of the neck. It consists of a framework or box of cartilages, with their ligaments and muscles, and is in the direct course of the current of air from lungs to mouth and *vice versâ*. It opens above into the cavity of the pharynx at the base of the tongue and connects that cavity with the trachea or windpipe. The cartilages are movable with regard to each other, and this motion, together with differences in the tension of the elastic ligaments, causes those modifications in the resistance to the air current which give rise to the phenomena of voice. The *cartilages* composing the framework of the L. are the *thyroid*, the *cricoid*, the *epiglottis*, the two *arytenoids*, the two *cornicula laryngis*, and the two *cuneiform* cartilages. The thyroid is the largest, and consists of two lateral pieces united in front to form a ridge causing the projection known as 'Adam's apple.' Each of the lateral plates has projecting pieces at its upper and lower corners. The cricoid is a ring situated below the thyroid to which it is connected in front by thick fibrous tissue, while it is joined to the trachea below by fibrous membrane. The arytenoids are two smaller cartilages of great mobility resting upon articular surfaces in the posterior part of the cricoid, and bound to it by fine elastic ligaments. The *epi*glottis is a thin cartilage with many perforations, which serves as a valve or covering for the laryngeal cavity; during respiration it is raised so as to admit of the passage of air, but the action of swallowing brings it down so as to enable the food to pass through the gullet behind. The most important ligaments are those known as the vocal cords. The true vocal cords, or *inferior thyro-arytenoid* ligaments, consist of fine elastic fibres joined behind to the base of the arytenoid cartilages and in front to the middle of the angle between the wings of the thyroid cartilage. They divide the cavity of the L. into an upper and lower part which communicate with each other by the *glottis*, a chink or aperture between the vocal cords. The size of the glottis is an important factor in voice-production. In the adult male it measures about 23 mm. from front to back, and from 6 to 12 *mm. transversely*. In *females* and males before puberty the length of the aperture is about 17 mm., and its width about 4 mm. The muscles of the L. may be divided into two groups, the *extrinsic* muscles, which move the L. as a whole, and [illegible]

[illegible] mechanism therefore consists of the modifying processes in the course of the blast of air from the lungs. The pressure of the air passing upwards through the trachea distends the margins of the elastic membranes constituting the vocal cords, the aperture is therefore opened momentarily while the air passes through, and thus a series of vibrations is produced. The pitch of the sound is determined by the number of vibrations in a second, while the intensity is determined by the amplitude of those vibrations. Inflammation of the L. is known as laryngitis. It may be caused by excessive use of the voice, irritating vapours, or dust, chill, or by microbic infection. The symptoms are pain and difficulty in phonation, and swelling of parts of the L. The treatment includes rest

for the voice and antiseptic throat washes. Laryngitis is always worthy of attention, as excessive inflammation causes great difficulty in respiration not unaccompanied by danger, while a succession of attacks is apt to lead to a chronic form in which the voice is injuriously affected more or less permanently. *See* CROUP, HOARSENESS, LARYNGISMUS STRIDULUS, LARYNGOSCOPE.

La Salette, *see* SALETTE, LA.

Lasalle, a city of Illinois, U.S.A. 84 m. W.S.W. of Chicago, and the terminus of the Illinois and Michigan Canal. Has extensive manufactories of clocks, Portland cement, and zinc, and the surrounding country abounds in coal. Pop. (1910) 11,537.

La Salle, Robert Cavelier, Sieur de (1643-87), a French explorer, born at Rouen, remembered for his exploration of the valley of the Mississippi and discovery of the Ohio. Emigrated to Canada in 1667, where he made long excursions among the native tribes and traded in fur. Colbert appointed him governor of Fort Frontenac in 1675, and gave him a patent empowering him to pursue his discoveries. In 1679 he explored the great lakes, the Ohio, and the Mississippi. In 1684 he left France on further travels, but encountered great difficulties, and was murdered by his mutinous crew. *See* Parkman's *La Salle and the Great West*, 1869.

Lascar, a name adopted in England into the Merchant Shipping Acts, signifying a soldier or camp-follower. Originally used by the Portuguese for an inferior class of men in military service, it is now generally applied to East Indian sailors serving on British ships.

Lascaris, Andreas Johannes (*c.* 1445-*c.* 1535), surnamed 'Rhyndacenus,' a Greek scholar of noble birth. He was a fugitive to the court of Italy in 1454, and was patronised by Lorenzo de' Medici. Later he went to Paris where he taught Greek, and in 1508, Leo X. placed him at the head of a Greek college in Rome. Remembered as editor of *The Greek Anthology*, commentaries on Sophocles, etc. *See* Villemain's *Lascaris*, 1825.

Lascaris, Constantin (*c.* 1434-1501), a famous Greek grammarian, and a pioneer of Greek studies in the West. Fled to Italy in 1453, after the capture of Constantinople by the Turks, and taught at Milan, Rome, Naples and Messena. Best known by his celebrated Greek grammar (1476), the first work printed in Greek characters. *See* Villemain, *Lascaris ou les Grecqs au XV^e siècle*, 1825; and Symonds, *Renaissance*, 1877.

Las Casas, Bartolomé de (1474-1566), a Spanish missionary, noted for his zeal on behalf of the oppressed Indians, born at Seville. Studied at the University of Salamanca, and in 1502 went to Hispaniola, where he became a planter and preached the Gospel to the natives. In 1516 he returned to Spain to lay before the king the cause of enslaved Indians, but his zeal at [illegible] up powerful [illegible] were unavail [illegible] he repeatedl[illegible] plead their cause, and addressed several letters and treatises on the subject to Charles V. In 1544 he accepted the bishopric of Chiapa, Mexico. Three years later he returned to Spain and passed the remainder of his life in the Dominician College at Valladolid. His works include an unfinished *History of the Indies*, an important source of information on Spanish discoveries and conquests. *See* A. Helps, *Life of Las Casas*, and Sabin, *Works of Las Casas*.

Las Cases, Emmanuel Augustine Dieudonné Marin Joseph (1766-1842), a French officer and historian, the companion of Napoleon at St. Helena, born near Revel, Languedoc. Served in Condé's army in 1792, and then spent some time in England, and fought for the royal cause at Quiberon (1795). He returned to France at Napoleon's accession, and worked at his famous *Atlas historique*, published under the name of Lesage. After Waterloo he shared Napoleon's exile, and published the ex-emperor's memoirs, under the title of *Memorial of St. Helena*.

Lascelles, Sir Frank Cavendish (*b.* 1841), a British diplomatist, son of the Rt. Hon. W. S. S. Lascelles; entered the diplomatic service in 1861, and was appointed consul general of Bulgaria (1879). He was created minister of Roumania in 1886, and minister of Persia some years later. He has held since then the posts of ambassador to Russia and Germany.

Lasco (or Laski), Johannes (1499-1560), a Polish reformer, nephew of the celebrated Archbishop Laski. Studying abroad he became imbued with the Zwingli and Erasmus doctrines. Nevertheless he was made Bishop of Vesprem, but soon fell into disfavour with the archbishop upon discovery of his secret marriage. L. tried hard to win Poland over to the Protestant faith. He wrote *History of the Cruel Persecution of the Church of God*.

Laser, or *Asadulcis*, a gum-resin obtained from the umbelliferous plant *Thrapsia garganica*, common to N. Africa, and was esteemed by the ancients as a drug.

La Serena, or Coquimbo, the cap. of the prov. of Coquimbo in Chile, and has a port 7 m. away. Has smelting works. Pop. 16,500.

Laserpitium, a genus of umbelliferous plants, found in Europe, Asia, and N. Africa. It consists of about twenty species: *L. glabrum*, the glabrou acrid substan be a violent ative of the and S. Europe.

Lasiopetalum, a genus of Sterculiaceæ, is found only in Australia. It consists of twenty-five evergreen shrubs.

Lasker, Eduard (1829-84) a Prussian Liberal politician, born at Posen of Jewish descent; educated at the universities of Breslau and Berlin. He lived for three years in England, and in 1865 entered the government service, and was elected to the Lower House. Two years later he entered the German Reichstag and headed the secessionists from the national Liberal party in 1880. Lasker took an active part in the civil consolidation of the German empire. He published, among other works, *Zur Verfassungsgeschichte Preussens.*

Lasker, Emanuel (*b.* 1868), a German chess champion, born at Berlinchen. At first interested in mathematics he turned his attention to chess, and from 1889-97 had a career [illegible] 1892 he first and in the following year at the international tournament, New York, he beat Steinitz, the champion of the world. Again, in 1897, he won first prize from Steinitz at Mosc L. has triumped over all competit both in tournaments and dual matches. In 1904 he started *Lasker's Chess Magazine.*

Las Palmas, the cap. of Gran the N.E for its sesses a theatre, cathedral, and various hospitals and educational institutions. It owns a large shipbuilding trade, and there are many steamboat excursions. The climate is delightful. Exports fruit and vegetables. Pop. 45,000.

Lassa, *see* LHASSA.

Lassalle, Ferdinand (1825-64), a brilliant German Socialist, born at Breslau, of Jewish extraction, and one of the founders of the Social Democratic party in Germar studied at the universities of and Berlin, chiefly confining to philology and philosophy, extraordinary brilliancy won him many admirers. Here he began his philosophical work on *Heraclitus the Obscure*, published in 1858. The same year appeared his remarkable pamphlet on the *Italian War and the Mission of Prussia*, in which he showed himself an ardent patriot and fanatical advocate of German unity. In 1861 he published *Das System der erworbenen Rechte*, an able legal work. L. was an ardent disciple of Marx, though there is a vast difference in their methods and ideas. As a political movement, modern Socialism owes much to him. He met his death in a duel, when only thirty-nine years of age. His unhappy love-story with Helene von Doënniges is the theme of Meredith's *Tragic Comedians*, where L. figures as Dr. Alvan.

Lassell, William (1799-1880), a celebrated English astronomer, born at Bolton in Lancashire. In 1820 he erected for himself an observatory at Starfield, where he worked for a period of over forty years. He was able to make several important discoveries by means of a new polishing machine which he had invented. To his exertions we owe the discovery of the satellite of Neptune (1847), two new [illegible] 47), and the a (1848). 0-76), a Norn at Bergen. Heidelberg, and Bonn, and was professor of ancient Indian languages at the last-named university from 1830 till 1864, when he lost his sight. With Eugene Burnouf, he deciphered many Pali MSS., the result of their combined labours being published in an *Essay on the Pali or Sacred Language from* [illegible] L. L.'s numerous and valuable works relate to a variety of Oriental languages and ancient history, the most important being: *Persian Cuneiforms; Prakrit; Indian Civilisation*, etc.

Lassen, Eduard (1830-1904), a Danish musical composer, born at Copenhagen. Began his musical education at Brussels at a very early age, and in 1851 won the Prix de Rome. Through the good services of Liszt, his opera *Le Roi Edgard* was produced at Weimar in 1857, and in 1878, on the retirement of Liszt, L. was made capellmeister to the court, retiring in his turn in 1895. Among his chief works are: *Landgraf Ludwigs Brautfahrt; Frauenlob; Le Captif* (all operas), and he also wrote [illegible] nd a 'Day

Lasso, a plaited rope of raw hide used by the Spanish Americans for

catching wild cattle. It measures 60 to 100 ft. long, and a noose 8 ft. wide, is made at one end to entrap the horns of the animal.

Lastra, a com., Italy, 3 m. W. of Florence. It is the centre of a large straw hat industry. Pop. 12,000.

Las Vegas, a tn. of New Mexico, U.S.A., in the co. of San Miguel, 44 m. E. by S. of Santa Fé. There is a large metal industry, and the town is noted for its hot springs. Pop. 3600.

Latacunga, the cap. of Leon prov. in Ecuador. This town, mostly constructed of dark-coloured pumice-stone, has been the scene of many mud eruptions from the volcano Cotopaxi. Pop. 15,000.

Latakiah (Turkish *Ladikiyeh*), a seaport tn. of Syria, and 75 m. distant from Tripoli. The finest tobacco, sponges, and cotton form the exports. Pop. 22,000.

Lateen-sail (Fr. *voile latine*, Latin sail, so called as the chief form of rig in the Mediterranean), a triangular sail suspended to the mast by a long yard, and rigged so that the upper end is raised in the air and the lower brought down to form the tack. A vessel rigged with a L. and yard is known as a 'lateener.' It is still the typical sail of the felucca of the Mediterranean and dhow of the Arabian Sea.

Latent Heat, the heat that enters a substance during the process of liquefaction, or of vaporisation. The application of heat ordinarily raises the temperature of a body, but when a change of state is imminent, it is found that heat is applied without any corresponding change in the thermometric reading until the change is complete. On the old assumption that heat was an imponderable substance introduced into the body heated, such heat was called 'latent'; that is, it concealed itself from the thermometer. The principle has important applications. For instance, water on evaporating abstracts heat from surrounding bodies; hence the danger of chill when moisture is allowed to dry from one's clothing. Conversely, heat is given out when a vapour condenses, or when a liquid solidifies. The L. H. of fusion of ice is about 80; that is, it takes 80 times the amount of heat required to raise the temperature of ice or water 1° C. to melt the same weight of ice at 0° C. The L. H. of vaporisation of water is about 536.

Lateran Church of St. John, the most important of the Roman churches except St. Peter's. This church was originally dedicated to the Saviour under the title of Salvator, and occupied the site of what was once a magnificent palace belonging to Plautius Laterinus. It was afterwards rebuilt in the middle of the 12th century by Lucius II., and was dedicated to St. John the Baptist. It was completely destroyed by Pope Sixtus VI. in 1586 and reconstructed. Five œcumenical councils were held here.

Laterite (Lat. *later*, a brick), a superficial deposit of red or brown clay, produced on the surface of rocks by their decomposition—common in tropical regions, such as India, Arabia, and the Sahara, where they are mostly of a highly ferruginous, argillaceous nature. L. is usually soft and friable, and rich in iron, though hard masses occasionally occur. In general, L. is perforated by tubules. The depth of the beds varies up to 30 or 40 ft., the surface often being hard and stony, and the deeper layers soft. Low-level L. is the surface rock of the extensive lowlands, and is formed from the débris of volcanic rocks.

Latham, Robert Gordon (1812-88), a brilliant English philologist and ethnologist, born in Lincolnshire. He became a fellow of King's College, Cambridge, and took his M.D. degree, but he was more interested in philology, and among his best known contributions to literature are his *English Language*; *Ethnology of the British Colonies*; *The Ethnology of Europe*. He advocated the new theory that the Aryan race originated in Europe and not in Asia.

Lathbury, Daniel Connor, (?) an English journalist and churchman; educated at King's College, London, and at Brasenose College, Oxford, where he graduated. On leaving Oxford he read for the bar, and was admitted a barrister at Lincoln's Inn, but never practised his profession, devoting his time to journalism. From 1878-81 he was joint-editor of *The Economist*, and from 1883-99 undertook the sole editorship of *The Guardian*. In 1900, on the foundation of *The Pilot*, L. became its editor and continued to hold this position till 1904, when it ceased to exist. L. has also edited *Correspondence on Church and Religion of W. E. Gladstone*, 1910.

Lathe (etymology uncertain, possibly a modified form of *lath*, or may be derived from Danish *lad*, a framework, as in *savelad*, a saw bench; *vævalad*, loom, etc.), a holding and) be worked purpose of The ancient 'bow and cord' and 'pole' Ls. are vastly different from the present-day examples of engineering skill, but are still used in some parts of the world. In each of these types the movement was alternately forward and back-

ward; the wheel-driven L. was not used until the 14th century. Another peculiarity of the old types was that they were all dead centre, whilst metal was not extensively used in the manufacture of Ls. until the 19th century. There are now over fifty different types of L., the bit of centres ranging from 3 in. to 9 or 10 ft., and their weight from 50 lbs. to 200 tons. The essential principle of all modern Ls. is that of two point centres in which the work rotates, and a rest to support the tool operating on its surface. If the work revolves between fixed centres the L. is termed a 'dead-centre' one, but very few are of this class. The majority have a running mandril by which the piece is driven, thus introducing a 'live' centre. The loose headstock is called the 'poppet,' the other one being called the 'fast' or 'fixed' head. Both heads stand on a bed, and the loose head is adjusted at a varying distance from the fast head according to the work. The other element in a L. is the rest, which is either of the hand form or a slide rest. In the former case it consists of a bar upon which the turner rests the tool and manipulates it by hand, whilst in the latter case the rest grips the tool and moves it in unvarying planes by means of slides operated by screws. In the more complex Ls. duplicating rests or turret rests are used; the former bring several tools to bear simultaneously upon different parts of the work, whilst the latter bring a succession of tools to bear without any change of rest. Ls. may be driven by a treadle, by belting from a countershaft, or by an electric motor. The motion is transmitted to the mandril by belt cones, with or without the intervention of back-gears, or by chains or toothed gear. The work done by Ls. includes turning, boring, facing, drilling, screwing, knurling, grinding, milling, and cutting off.

Lathom, a tn. in Lancashire, 13 m. N.N.E. of Liverpool. The seat of the Earl of Lathom is a mansion built in the Greek style and dates back to 1750. Another mansion occupied the same site as far back as 1644, when the Countess of Derby held out against Fairfax. Pop. (1911) 7235.

Laths (It. *latta*, Fr. *latte*), thin strips of wood employed in building, forming a foundation for plaster, or tiles, slates, and similar covering for roofs. Lattice-work or bars of Venetian blinds and shutters are made from L.

Latimer, Hugh (*c.* 1485-1555), an English reformer, son of a yeoman, born at Thurcaston, near Leicester, educated at Cambridge; elected a fellow of Clare College in 1510, and appointed a university preacher in 1522. Took priest's orders at a date unknown in Lincoln. In 1529 he incurred disfavour as being known to sanction Henry VIII.'s divorce. He was consecrated Bishop of Worcester in 1535 and preached powerful sermons, urging on the Reformation. He was impeached and sent to the Tower twice during Henry's reign, and on the accession of Edward VI. resigned his episcopal functions and devoted himself to preaching and works of benevolence. Under Mary in 1555 he was found guilty of heresy, together and Cranmer, ake. *See* Tytler *VI. and Mari tyrs*, and Stow's *Chronicle*.

Latimer Clark's Cell, *see* CELL.

Latin Empire, portion of the Byzantine empire, captured by the crusaders in 1240, but overthrown by the Greeks in 1261. Constantinople was its capital. *See* BYZANTINE EMPIRE.

Latini, the name of one of the oldest nations in Italy, viz., the inhabitants of Latium, a country of Italy near the Tiber, of the Umbri of the countr Laurentum was the capital, changed by Æneas to Lavinium, and by Ascanius to Alba. At the founding of Rome by Romulus, the L. soon rose in importance.

Latini (or Latino), **Brunetto** (1230-94), a famous Italian poet, orator, and grammarian, born at Florence. Here he taught philosophy and grammar, Dante figuring amongst his pupils. He was attached to the Guelph party and held some of the most important offices in the republic. His most noted work is an encyclopædia entitled *Le Trésor*, written in French, which contains extracts and translations on rhetoric, history, and philosophy from the classic authors. *L.* is also the author of a treatise on rhetoric and a poem entitled, *Il Tesoritto*. *See* Negri, *Istoria degli Scrittori Fiorentini*; and Tiraboschi, *Storia della Letteratura Italiana*.

Latin Language and Literature: 1. *Language.*—The Latin language is a branch of the Indo-European or Aryan family of speech, and is more closely allied to the Celtic group than to any other. It was originally spoken by the inhabitants of the ancient city of Rome and by the tribe called Latini, who dwelt on the plain of Latium, S. of the Tiber. Various other languages were at the same time used in Italy. The

vernacular spoken in Etruria was Tuscan, Iapygian was the language of a race in S.E. Italy; Celtic tribes occupied the N., Greek the S. of the country, and each spoke in their own tongue. Gr
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possess any early literature, but the fact that many of them have survived to the present day and that some have since acquired real literary importance shows how slowly Latin obtained its dominance over them.

In the pre-Literary period of Latin, that is, the period before 250 B.C., as far as it is possible to judge from the extant records and inscriptions, Latin was a heavy and unwieldy language, crude and undeveloped as any other *patois* of ancient Italy. During the pre-Classical period (250-85 B.C.) the literary language separated from the vulgar dialect. The Romans began to realise their special powers of conquest, of organisation, of administration, of jurisprudence, and of oratory, and as these powers developed, so Latin became more and more adapted to the needs of legal, historical, and rhetorical writing. Latin prose reached its full maturity in the reign of Augustus, when it attained perfect clarity while keeping its former solidity and dignity. Latin is not naturally suited to the writing of poetry. The Romans themselves were not an imaginative race, and the long sonorous Latin words do not fall easily into lyric metres. In the hands of Virgil and Horace it received its finest form as a poetic instrument. During this period the *sermo cotidianus*, or spoken tongue, of Rome, became general throughout Italy, having already borrowed considerably from the dialects of the Sabines, Umbrians, Marsians, Samnites, and other tribes. After the death of Augustus, much of the literature was marked by an affectation of ornament and straining after rhetorical effect. The simplicity and purity of the language was gradually disappearing. With the increase of commerce and travel, the vocabulary became increased with borrowings
After 180 A.D.
with the fall of
tion of writing
in Latin was kept up by Christian and by mediæval scholars, who used an impoverished and disorganised form of the language, known as Late Latin. With the conquests of the Roman arms, Latin had spread into countries far from Rome, and was almost universally adopted throughout the western civilised world. Thus, from Latin, there sprang up the Romance languages of modern Europe, which comprise Italian, Spanish, French, Provençal, Rhæto-Romanic, Roumanian, and Wallachian.

Like Greek, Latin is a highly inflectional language. Nouns have three genders, but only singular and plural numbers, the dual number which is present in Greek being only present in one or two Latin words, such as *ambo*, both. Latin has six cases—nominative, vocative, accusative, genitive, dative, and ablative, with traces of a locative (*cf. domi*, at home), while
Greece. The
Latin are, or
than those of Greek. Besides lacking a dual number, Latin has no article, no aorist tense, and only traces of an optative mood and of a middle voice. In Greek, too, there are far greater facilities of making compound words and expressing abstract terms. Latin has fuller passive inflections than Greek. Another point of difference is that Latin has five declensions of nouns, whereas Greek has only three. In verbal syntax Greek is much freer than Latin. Latin has not that variety of particles and prepositional usage which make Greek a perfect instrument for expressing the subtlest philosophical thought. On the other hand, Latin has the greater conciseness and precision.

The alphabet of the Romans was derived from that of the Greeks, who had settled in colonies in Southern Italy. It originally consisted of twenty letters, A B C D E F H I K L M N O P Q R S T V X. The signs used by the Romans corresponded to those in use among the Chalcidian or Western Greeks, and thus differed from those of the Ionian alphabet. C supplanted Greek γ (gamma), having originally the sound of *g*, for it was used as a capital letter to indicate the name Gaius, while Cn. stood for Cnæus. Later C came to represent the hard sound of K, which letter thus became superfluous and was only retained in a few words, such as *Kalendæ*. The new symbol G was introduced in 312 B.C. by Appius Claudius, and was placed between letters F and H. I had both the vocalic sound of *i* and the consonantal sound of *j*, and *v* likewise was employed to represent two sounds, the vowel sound of *u* and the consonantal sound of *v*. During the 1st century B.C. the Greek letters Y and Z were established in Latin, and in the 1st century A.D. Claudius made an unsuccessful attempt to introduce three new letters to represent the sounds of *ps* (Greek ψ), *w*, and modified *u*. It is generally admitted

by scholars that the vowels in classical times were pronounced as in modern Italian. Latin C and G corresponded to the sounds of *c* and *g* in English *cat* and *get* respectively; I (*j*) and U (*v*) had semi-vocalic sounds, as English *y* and *w*, while L and R were trilled. S was voiceless, as in *this*. Q generally preceded a *u* and had the same sound as in English; T and D were sharp dentals, and the rest of the consonants were pronounced as in English.

Consult W. M. Lindsay, *The Latin Language, a Historical Account of its Sounds, Stems, and Flections*, 1894; King and Cookson, *Sounds and Inflections of Greek and Latin*, 1888; Brugman[illegible] *mar*, 1888-95; *The Restored* [illegible] *and Latin* (4th ed.), 1908; H. J. Roby, *Latin Grammar*, 1896; Hale and Buck, *Latin Grammar*, 1903; Neue-Wagener, *Formenlehre d. lat.* [illegible] (3rd ed.), 1888; Conway *Dialects*, 1897; Mommser *teritalische Dialekte*, 1850. Lexicography: Lewis and Short (1879), Smith (1890), and Du Cange (Middle and Low Latin, 1678).

2. *Literature.*—It is impossible to fix with any precision the beginning of Latin literature in Rome and the neighbouring Latin communities, that is to say, the date when the art of writing was employed consciously in literary form. Of Latin inscriptions the earliest known to us are the 'Forum Inscription,' engraved on a brooch found in a Prænestc tomb of the 7th century B.C., and the 'Duenos Inscription' on a clay vessel dating back to the 4th century B.C. Many inscriptions of various kinds, belonging to a period prior to the 3rd century B.C., have been preserved. Some on tablets commemorate victories; others on coffin lids or on busts take the form of epitaphs and eulogies. The text of the famous Twelve Tables (451-450 B.C.) has unfortunately come down to us only in the form of quotations (ed. R. Schoell, 1866). A great advance in the art of writing may be seen in the *Annales*, which are private records of family history, of brave deeds, of funeral orations, and the like. There is no doubt that a primitive kind of poetry also existed in very early times. Rude songs, often composed extempore and sung or recited antiphonally, formed an important feature of weddings and of other festive ceremonies; dirges were sung over the dead, and hymns and chants formed part of the ritual of the ancient religion. Latin comedy may be traced back to the *saturæ*, which took the dramatic form, and were contests of wit and invective, interspersed with songs and dances. But these early writings were only the crude efforts of a young race; the literature of the Roman people did not, strictly speaking, begin till the middle of the 3rd century B.C. The first period of Latin literature, commonly called the pre-classical period, extends from about 250 B.C. to about 85 B.C. During this time the Romans made experiments with various literary forms, with tragedy, comedy, satire, and epic and didactic verse. At the close of the Punic War in 241 B.C., Rome having secured her position as mistress of the Mediterranean, her more wealthy citizens turned to the leisurely pursuit of learning. The only literature that was available to them was that of Greece, and Greek culture continued to hold sway over Roman thought to the end. It is a [illegible] hat the history of begins with the

Livius Andronicus (c. 284-204 B.C.), a Greek captive of Tarentum, is celebrated for having produced, in 240 B.C., the first drama on the Roman stage. His plays were adaptations from the Greek, and achieved such success that theatrical performances became a permanent institution in Rome. Andronicus also translated the *Odyssey* into Saturnian verse, and is said to have addressed a lyric poem to Juno Reginina. Considerable progress in the development of the drama and the epic was made by his two younger contemporaries, Gnæus Nævius (c. 270-200 B.C.) and Quintus Ennius (239-170 B.C.). Nævius wrote a great number of comedies and some tragedies, the majority of which were based on Greek originals. But in two cases, at least, he handled materials provided by the history of his own country, and may, therefore, be said to have founded the national drama. His *Alimonium Romuli et Remi* treats of the legendary founding of Rome, and the *Clastidium* deals with a contemporary historical event, namely, the victory of M. Marcellus over the Gallic tribes in 222 B.C. Nævius also laid the foundation of the Roman national epic. His *Bellum Panicum*, a verse chronicle, narrating the events of the first Punic War, in which he himself had taken part, was an acknowledged classic in Horace's days, and was undoubtedly an important source of Virgil's *Æneid*. Ennius, the 'father of Roman poetry,' was born in a district of Calabria, known as 'Great Greece' on account of the number of Greek colonies that had sprung up

in the neighbourhood. Consequently, in early life he was as familiar with the Greek as with his native tongue, and when he came to write his *Annales*, an epic of Roman history in eighteen books, he chose the Greek hexameter in preference to the native Saturnian metre. Only a few hundred lines remain of this poem, but they are sufficient to vindicate the praise which was lavished upon it by subsequent Roman writers. Ennius showed considerable power, too, as a writer of tragedies. These were modelled chiefly on the dramas of Euripides, but were infused with the true Roman spirit. A more important branch of his work must be mentioned. His *saturæ* differed from the musical 'medleys' which have already been noted in connection with the early beginnings of Latin literature. They were really collections of miscellaneous poems, on fabular, philosophic, didactic, and various other subjects. A few of these, written probably through the influence of Aristophanes and Cratinus, dealt with contemporary events in a satirical tone, and hence prepared the way for the 'satire' proper, a purely native product of ancient Italy. The satire, as he used it, was later developed by Gaius Lucilius (*c.* 180-103 B.C.) who, employing the dactyllic hexameter, brought all spheres of political, social, and literary life within his range of discussion, and lashed pitilessly at the vices and absurdities of his time. Nævius and Ennius were succeeded by Marcus Pacuvius (*c.* 220-130 B.C.) and Lucius Accius (170-*c.* 105 B.C.), who were regarded as the most important tragedians of Rome, but whose works have unfortunately been lost. Pacuvius, who was a nephew of Ennius, wrote imitations of Greek plays, as well as a *prætexta* (*i.e.* a play whose plot is derived purely from Roman history, and in which the hero wears the *toga prætexta*, the official robe of a Roman magistrate). Accius was, apparently, a far more prolific writer. He wrote *Brutus* and *Decius*, examples of the *prætexta*, tragedies, of which the titles and fragments of nearly fifty remain, and *poems on miscellaneous subjects*, such as grammar, poetry, acting, metres, antiquities, etc., which have been lost.

The chief exponent of Roman comedy was Titus Maccius Plautus (*c.* 254-184 B.C.). Of his plays twenty are extant, which are all included in the list of genuine plays made out by Varro. The best of these are the *Miles Gloriosus*, *Rudens*, and are excellent examples of the *fabula palliata*, a particular class of Roman comedy so called from *pallium*, a Greek mantle, because it was derived from Greek sources. Plautus modelled his style on the New Attic Comedy of Menander, Philemon, and other Athenian poets. Though in form and matter Plautus followed Greek models, he nationalised his plays by introducing incidents, situations, and customs peculiar to the life of Rome. His work is not infrequently slipshod, but he had a masterly command over language and an inexhaustible fund of lively, though often coarse, wit. Plautus's influence on modern comedy is inestimable. To the dramatists of the Renaissance, Plautus was with Aristophanes the model for comedy. His influence is manifest in the work of Shakespeare and Molière, as well as in the Restoration *Comedy of Manners*. Plautus's immediate successor in Rome was Statius Cæcilius (*d.* 166 B.C.), an Insubrian Gaul, who had been brought captive to the city about 194 B.C. He is to us, however, hardly more than a name. The titles of some forty of his plays have survived, and he appears to have been held in high esteem. A more cultured, but less virile, writer was Publius Terentius Afer (*c.* 185-159 B.C.), who, according to tradition, produced his first comedy, *Andria*, under the patronage of Cæcilius. Terence was a Carthaginian prisoner of war, and received his emancipation and education from the senator Terentius Lucanus. His literary gifts admitted him when a youth into the most aristocratic circles of Rome, and he became an intimate friend of men like Gaius Lælius and the younger Scipio Africanus. Besides the comedy already mentioned, he wrote: *Hecyra*, *Heautontimorumenos*, *Eunuchus*, *Phormio*, and *Adelphi*, all of which are extant. Terence adhered more closely than Plautus to the Greek originals, retaining also the Greek background to his scenes. His plays are chiefly distinguished by their elegance and artistic finish; he lacked the vigorous originality of Menander, and the fresh wit of Plautus. After the death of Terence, a new kind of comedy sprung up, known as *fabula togata*, the form of which was still Greek, but the life and characters Italian. Examples of it remain only in fragments, and it is improbable that it ever had any literary value. The earliest representative of this latter form of Latin comedy was Titinius, who flourished about 150 B.C. His most important successors were Quinctius Atta (*d.* 77 B.C.) and his contemporary,

Lucius Afranius, who was praised by Cicero and retained some of his popularity as late as Nero's time. However, the development of Latin comedy virtually ceased with the death of Terence. The Roman populace preferred for holiday entertainment the more sensational performances of *mimi*, jugglers, and gladiators, and literary enterprise was therefore obliged to seek out fresh channels of expression.

Latin prose, not unnaturally, was of late growth. From the very earliest times prose was used in the necessary business of city life. As has been noted, the earliest inscriptions, epitaphs, laws, and records were written in prose, but the development of prose style, the recognition of prose as a literary medium of expression, took place late in the history of Latin literature. A prose style was gradually formed by the practice of public speaking, oratory being an art in which Romans excelled. It is noteworthy, then, that the first written prose of any real literary importance is the speech of Appius Claudius opposing the proposals of Pyrrhus for peace. This was read by Cicero, but has unfortunately been lost. Marcus Porcius Cato (234-149 B.C.), commonly known as 'Cato the Censor,' was regarded as the founder of Latin prose literature. About 150 of his speeches were extant in Cicero's time, but have not come down to us. Cato's contemporary orators included C. Lælius and the younger Scipio, who were succeeded by Marcus Lepidus Porcina (*fl.* 137 B.C.), the famous Gracchi (Tiberius, 163-133 B.C., and Gaius, 154-121 B.C.). The oratory of the next generation, and in particular of Marcus Antonius and Licinius Crassus, attained a higher level of literary perfection, until we reach the unrivalled speeches of Cicero. Meanwhile, scientific treatises were written on the rules of rhetoric, only one of which is extant, namely the *Rhetorica ad Herennium*, formerly ascribed to Cicero, but probably the work of one Quintus Cornificius. The early annalists, who include Fabius Pictor, the historian of the second Punic War, and Cincius Alimentus, who was taken prisoner by Hannibal and narrated his personal experiences, wrote in Greek probably because Latin was not sufficiently developed to meet the requirements of prose composition. Cato the Censor was the first to write a history of Rome in Latin prose. His *Origines*, in seven books, brought the history of the city down to his own time and comprised the results of his wide study and personal experience. The only work of Cato's which has survived is a treatise on agriculture, *De Re Rustica*, to which Virgil probably had resource in writing his *Georgics*. But Cato's influence prevailed chiefly as an historian, and his successors, Cassius Hemina, Calpurnius Piso Frugi, Cælius Antipater, and others, borrowed freely from the *Origines*. An advance is seen in the work of Claudius Quadrigarius (*fl.* 90 B.C.), who showed judgment in his choice of material by rejecting all legendary and doubtful records. Sulla, the dictator, who lived about the same time, wrote a memoir of his own life and times, entitled *Rerum Suarum Commentarii*. Sempronius Asellio (*fl.* 100 B.C.) in his *Rerum Gestarum Libri* was not content with giving facts in chronological sequence, but attempted to explain the cause and effect of events. Other annalists of this period are Valerius Antias, Licinius Macer (*d.* 66 B.C.), Cælius Antipater, and Cornelius Sisenna (*d.* 67 B.C.), whose works are lost but for a few fragments.

During the 1st century B.C. a new impulse was given to the writing of poetry, which for a time had made little or no advance, by renewed study of Greek and Alexandrian poetry. There existed in Rome at this time a friendly group of poets united by their common enthusiasm for Greek culture. It included Valerius Catullus (87-54 B.C.) who adapted to his own purpose and obtained complete mastery over various forms of Greek lyric metres. He wrote passionate love songs to one Lesbia; an epithalamium to Peleus and Thetis, and another in honour of Manlius and Vinia; a paraphrase of Callimachus' *Coma Berenices*, and the *Attis* in galliambic metre, which is as remarkable as a *tour de force* in metrical form as for its dramatic force and vividness of conception. Other members of this group were Gaius, Helvius, Cinna, and Licinius Macer Calvus, whose work has not come down to us. Very different from any of these, both as a poet and as a man, was Titus Lucretius Carus (98-55 B.C.), the author of one of the greatest philosophical poems in any language. His *De Natura Rerum* expounds the physical structure of the universe according to the teaching of Epicurus. Lucretius died before the poem was completed, and it is probably, in consequence, very unequal in quality. Lucretius regarded the graces of poetry as subordinate to the truths of his philosophy, so that it is remarkable with what genius he gives poetic form to an unpoetic subject, and a subject, moreover, which had not hitherto been treated in the Latin tongue. Catullus and Lucretius died

within a year of each other, both forerunners of the great poetic outburst which glorified the age of Augustus.

During the 1st century B.C. at the close of the Republican period, Latin prose reached its zenith. Marcus Terentius Varro (116-27 B.C.) was a most prolific and versatile writer. He [illegible] *Lingua Latina*), [illegible] *m Rusticarum* (*Antiquitates* [illegible] *et Divinarum*), and philosophy (*Libri Logistorici*). He also published an encyclopædia of the arts (*Disciplinarum Libri*), and portraits of famous Greeks and Romans (*Imagines*). As a poet and a satirist, Varro showed considerable ability. His *Saturæ Menippeæ*, moral essays written partly in prose and partly in verse, are in imitation of the cynic Menippus of Gadara, and are important as marking the development of the Latin 'satire.' The treatise on agriculture is the only one of Varro's works which has been preserved in its entirety. Marcus Tullius Cicero (106-43 B.C.) made an indelible impression on the literature as on the history of Rome. His literary work may be classified under three headings, his speeches, philosophical works, and letters. Oratory had already attained a high perfection in Rome, and at the time of Cicero's entrance into public life Quintus Hortensius Hortalus (114-50 B.C.) had no rival in the Forum. Hortensius indulged in the florid mannerisms of Attic rhetoric, and his fame was soon eclipsed by the young orator who aimed at polished and correct composition. Of Cicero's speeches fifty-seven are extant, the most famous being the Verrine and Philippic orations, the four speeches delivered against Catiline, *Pro Murena*, *Pro Lege Manilia*, *Pro Archia*, *Pro Sestio*, *Pro Plancio*, and *In Pisonem*. Of his philosophical treatises, the chief are: *De Oratore*, *De Republica*, *De Legibus*, *De Natura Deorum*, and *De Officiis*. Cicero's letters, *Epistolæ ad Familiares*, edited by his secretary Tiro, are, of course, unequal in style and very different from his speeches; but they are of inestimable importance to the student for the vivid picture they give of contemporary Roman life among the upper classes. As letters, they stand the supreme test, and have long been regarded as the model of epistolary style. They reveal the man himself, in his strength and in his weakness. Cicero's great achievement was the creation of a prose style which was adapted to all the needs of life. He was sensitive to the dignity and harmony of Latin prose, and avoided all that was merely florid and declamatory. His style is lucid; reflecting every passing emotion of the writer it is used with consummate ease to convey wit, humour, tenderness, pathos, anger, vehemence, invective at his will. Thus Cicero made Latin the written vehicle of the civilised world for centuries to come. Julius Cæsar (*c.* 102-44 B.C.), a colossal figure in the history of Rome, is second to Cicero as a writer of Latin prose. Cæsar wrote personal memoirs of his campaigns in Gaul, *Commentarii de Bello Gallico*, in a clear and simple style, admirably suited to the subject. His *Commentarii de Bello Civili* (49-48 B.C.) have also survived, but his other works, which include *De Analogia* and *Anticatones*, have not come down to us. As a historian Cæsar is incomparably superior to any of his predecessors, but like them his main object was to narrate the chief events in due order. Gaius Sallustus Crispus (86-34 B.C.), was the first Roman to realise that it is the function of the historian to interpret the actions of men. Modelling his work on that of Thucydides, Sallust attempted to give it an artistic unity. Unfortunately he affected an archaic style in imitation of the elder Cato, and introduced tedious platitudes into the mouths of his chief actors. He not infrequently sacrificed accuracy for the sake of producing an artistic effect. His works were *Bellum Catilinæ*, *Bellum Jugurthinum*, and *Historiæ*. The last-named comprised five books, but only fragments of it have survived. Of the other prose writers who flourished towards the close of the Republican period, brief notice may be given to Cornelius Nepos (*c.* 99-24 B.C.), the author of an extensive biographical work entitled *De Viris Illustribus*; and Aulus Hirtius (*d.* 43 B.C.), who added an eighth book to Cæsar's *Commentarii de Bello Gallico*, and probably wrote the *Bellum Alexandrinum*.

The Augustan period may be said, roughly speaking, to have begun with the victory of Augustus at Actium in 31 B.C. His death in 14 A.D., marked its close. This period was distinguished by a remarkable output of verse, only to be compared in its fertility with that of the 'spacious days of Queen Elizabeth.' Publius Vergilius Maro (70-19 B.C.), in his [illegible] spirit, of [illegible] and honour, [illegible] poet of his [illegible] [illegible] lication, a number of bucolic poems, called the *Eclogues*, which were written in imitation of the idyls of Theocritus, established his fame. He won a patron in Mæcenas, to whom he addressed his *Georgics*. The *Æneid* was written in

imitation of the *Odyssey* and *Iliad*, and was intended to arouse patriotism by a glorification of the origin of the Roman people in the founding of their city by Romulus, the descendant of Æneas, and by a comparison between the Trojan hero and the Emperor Augustus. It was unfinished at the death of Virgil, and was published at the express command of Augustus under the editorship of Varius Rufus and Plotius Tucca. The *Æneid* has stood the test of time, and is now ranked with the great epics of the world, with the *Odyssey* and the *Iliad*, with Dante's *Divine Comedy*, and with Milton's *Paradise Lost*.

Quintus Horatius Flaccus (65 B.C.-8 A.D.) was, like Virgil, a man of humble origin who, through his literary ability, was admitted to the inner circle of the highest society in Rome. About 35 B.C. Horace published his first book of satires, dedicated to Mæcenas, who in return made him the gift of a small Sabine estate, henceforth his favourite abode. They were written in hexameters, and owed their form to the satires of Lucilius. Horace himself called them *Sermones*, or conversations. Between 30 and 29 B.C. his second book of *Satires* and his *Epodes* were completed, while the *Odes* (*Carmina*) were published in 23 and 13 B.C., and the *Epistles* (*Epistulæ*) in 20 and 15 B.C. As a metrist Horace was unrivalled. His verses are lively and graceful, and so finely polished that they give the effect of spontaneity and ease, but the wings of his Pegasus are clipped so that he never soars to the loftiest heights of poetry. He has an extraordinary gift of words; his style is epigrammatic and terse, 'neat because homely.' His poems give us a very clear picture of contemporary life, and afford delightful reading for their revelations of his personality. Horace also published a work of literary criticism, the famous *Epistula ad Pisones*, better known as the *Ars Poetica*, which has exercised a powerful influence on subsequent literary criticism and creation, particularly in France and England. Its immediate aim was to give guidance to young dramatists. Tragedy was again in vogue, and was being attempted by Asinius Pollio (76 B.C.-5 A.D.), Varius Rufus (74-14 B.C.), and Augustus himself. The younger generation of poets were, however, chiefly attracted by elegiac poetry, which had been cultivated in the Ionian cities and in Alexandria. The chief representatives of the Roman elegists are Tibullus, Propertius, and Ovid. Albius Tibullus (54-19 B.C.) sung poems to his mistress *Delia*, and lamented her faithlessness in *Nemesis*. His poems are marked by their sincerity; the versification is polished, while the language is simple and homely. The poet, when not in mind of his love, sang the praises of country life. Sextus Propertius (49-15 B.C.) had not metrical skill, but possessed greater poetical genius. Propertius's chief theme was his mistress *Cynthia*. His style is often harsh and cumbrous, but he was stirred by a great, if sensuous, passion, and his poetry at its best is fresh and vigorous and rich in imagery. Publius Ovidius Naso (43 B.C.-18 A.D.), unlike the two fellow-poets of his youth, lived to a ripe old age. His early life was spent in Rome where his amatory poems—*Amores* addressed to *Corinna* the *Heroides*, a series of fictitious love letters, the *Ars Amatoria*, and *Remedia Amoris*—as well as the *Metamorphoses*, a collection of stories from Greek and Roman mythology, and the *Fasti*, a poetic exposition of the Roman calendar, were produced. In 9 A.D. he was suddenly banished from Rome for an unknown offence to Augustus, and spent the remainder of his life in exile at Tomi on the Black Sea. There, in his loneliness, he gave expression to his grief in the *Tristia*, *Epistulæ ex Ponto*, and *Ibis*.

The prose of the Augustan period is represented to us by one great writer, Titus Livius (59 B.C.-19 A.D.), of Patuvium (modern Padua). He began his history of Rome, *Ab Urbe Condita* (from the foundation of the city), about 26 B.C., and did not publish the first twenty-one books until after the death of Augustus (14 A.D.). The history was originally in 142 books (only books i.-ix., and xxi.-xlv. are extant) and extended from the arrival of Æneas down to the death of Drusus in 9 B.C. The faults of the work are obvious. Livy had no idea of historical research, and his chronology and description of places are often inaccurate. Moreover, he had little grasp of the Roman law and the Roman military system. But he is a consummate artist in the arrangement of his material, and in the dramatic presentation of his characters. Minor prose writers include Nitruvius Pollio, the author of *De Architectura*; Annæus Seneca, father of the philosopher and author of *Oratorum et Rhetorum Sententiæ Divisiones Colores*; Pompeius Trogus, who wrote the first general history in Latin, *Historiæ Philippicæ*, of which only an epitome by Justin is extant; and Marcus Verrius Flaccus, who wrote the first Latin lexicon, *De Verborum Significatu*, most of which is lost.

The period immediately preceding that of Augustus was barren of first-rate literature. There were numerous

minor writers, but under the suppressive and jealous rule of Tiberius literature could not flourish. The most notable of the prose writers were Vellius Paterculus, who wrote a compendium of Roman history; and Vallerius Maximus who made a collection of anecdotes, *Factorum et Dictorum Memorabilium Libri*. The poets included Phædrus, the fabulist, and Germanicus, the emperor's nephew, who translated the *Phænomena* of Aratus into Latin hexameters. A more prominent figure was Lucius Annæus Seneca (4 B.C.-65 A.D.), the philosopher, whose numerous prose writings included discourses on philo- subjects, *Quæs-* letters. The him (*Medea*, *Œdipus*, etc.) in Latin literature which have come down to us. Seneca's nephew, M. Annæus Lucanus (39-65 A.D.), wrote an unfinished epic poem in ten books on the struggle between Cæsar and Pompey, entitled *Pharsalia*. Aulus Persius Flaccus (34-62 A.D.), the friend of Lucan, left six vivacious *Satires*, which still retain their interest. After the death of Nero (68 A.D.) a more serious tone was reflected in literature. During the reign of Vespasian the only writers of any note were Plinius Secundus (23-79 A.D.) of Pliny the Elder, whose *Historia Naturalis* is a storehouse of learning and C. Valerius Flaccus, the author of an unfinished poem, *Argonautica*, who endeavoured to maintain the tradition of the Virgilian style. In the reign of Domitian, there began a revival of letters. The most original genius of his age was M. Valerius Martialis (*c.* 40-102 A.D.). Martial was the creator of the *epigram* in its modern sense. His satire invariably had a sting in the tail. He combined a brilliant and caustic wit with the metrical skill of Ovid, but his poems are frequently marred by his fulsome flattery of men in high place and by his vulgar lack of reticence. His contemporary poets were of a secondary order. Silius Italicus (*c.* 25-101 A.D.) wrote a lengthy and uninspired poem on the Punic War, and Papinius Sta left two mytholog and *Achilles*, wh here and there by and a collection of shorter poems, entitled *Silvæ*. The most influential prose writer was Fa (35-95 A.D.) whose (The Training of remained a stande subject. A more complete literary revival took place in the reigns of Nerva, Trajan, and Hadrian. The prominent figures of this so-called Silver Age are Tacitus, Juvenal, and the Younger Pliny, who add, 'as it were, a sunset splendour to the literature of Rome.' Cornelius Tacitus (*c.* 54-120 A.D.) is known principally by his *Historiæ*, extending from Galba to the death of Domitian, and *Annales*, a history of the Julian house, beginning with the death of Augustus. He also wrote an account of *Germania* and a beautiful memoir of his father-in-law, *Agricola*, besides a dialogue *De Oratoribus*, his earliest extant work. Tacitus is a careful, though not an impartial, historian. His deep scorn for the emperors, whom he regards as the greatest enemies of Rome, cannot but make itself be felt. The spirit of the age is again prevalent in the work of Decimus Junius Juvenalis (*c.* 60-140 A.D.). He has not the good-natured cynicism of Horace. Juvenal's *Satires* paint with pitiless scorn and moral indignation the degraded state of Roman society. Plinius Cæcilius Secundus (62-*c.* 113 A.D.), the nephew of Pliny the Elder, gives us in his *Letters* a more pleasing picture of the public, social, and literary life of his time. The only remaining literary men of note who flourished during the reign of Hadrian are Suetonius Tranquillus (*c.* 75-160 A.D.), fragments of whose *De Vita Cæsarum* have come down to us; Cornelius Fronto (100-175 A.D.), whose letters to his pupil, Marcus Aurelius, are of some interest; and Aulus Gellius (130-170 A.D.), the author of *Noctes Atticæ*, a series of quotations and excerpts from miscellaneous Greek and Latin authors. With Gellius the literature of classical Latin is closed. For many centuries works in Latin were still produced. At the time of the Renaissance, European scholars wrote in Latin, believing that only by so doing would their work endure, and since then controversial works as well as theological and scientific treatises have been written in Latin, in order that they may be understood by educated men of different nationalities. But all such Late Latin literature is outside the scope of the present sketch.

on the various also Simcox, *literature from* 33; C. T. Cruttwell, *History of Roman Literature*, 1877; A. S. Wilkins, *Roman Literature*, 1880; J. W. Mackail, *Latin* 1895; Tyrrell, *Latin* ; Sellar, *Roman Poets of* 1889; and *Poets of the Augustan Age*, 1891; Prof. Nettleship 'On Literary Criticism in Latin Antiquity,' in *Journal of Philology* (vol. viii.); and Teuffel and Schwabe, *Ge-*

schichte der Römischen Litteratur (Eng. trans. by Warr, 1900).

Latin Union, a political monetary union entered into in 1865 by France, Belgium, Italy, and Switzerland, by which the amount of silver to be coined yearly was fixed for each member, in order to protect them against the relative appreciation of silver to gold, due to the gold discoveries in Australia and California. A few years later, Greece, Servia, Roumania, and some of the S. American states also joined the union. The unit of coinage was the franc. In 1874 the members agreed to suspend the free coinage of silver owing to the fall in this metal which made it depreciate relatively to gold. *See* BIMETALLISM.

Latinus, the son of Faunos and of the Nymph Marica, but other legends say of Hercules and Fauna, or of Odysseus and Circe, King of Latium, father of Lavinia, the wife of Æneas. *See* Virgil, *Æneid*, vii.-xii.

Latitude and Longitude. The latitude of a point on the earth's surface is its angular distance from the equator, measured on the curved surface of the earth. It is measured in degrees, minutes, and seconds (60 seconds=1 minute; 60 minutes=1 degree), each minute being equal to a sea-mile in length. Direct measurement is impossible, so that astronomical calculations are employed. Thus the latitude of a place is equal to the angle between the direction of a plumb-line at the place and the plane of the equator. This is equivalent to the angle between horizontal planes at the place and at the equator, and also to the elevation of the celestial pole above the horizon. Geographical latitude, as used in maps, is based on the supposition that the earth is an oblate spheroid, of which the compression and the angle which the normal makes with the equator are known. It differs from astronomical latitude only in being corrected for local deviation of plumb-line. The geocentric latitude of a place is the angle which a line from the earth's centre to the place makes with the plane of the equator. The latitude of a celestial object is the angle which a line drawn from some fixed point of reference to the object makes with the plane of the ecliptic. The following is an outline of a few different practical methods used for determining the latitude of a place or ship. Astronomical hours are 24, starting from noon, so that 17 means 5 a.m.; 22 means 10 a.m., etc. (1) Observation of the stars. This method is one of the easiest and quickest, as star tables are worked out in the *Nautical Almanac* for all stars of the first magnitude in both hemispheres, and for navigation stars of the second and third magnitudes, with the astronomical apparent times at which they cross the observer's meridian on the first day of each month in the year. All stars come to the meridian four minutes earlier each day. The altitude of the star on the meridian is observed, and the latitude calculated from its known polar distance. (2) Observation of the Pole Star. The true altitude of the star is observed; the local apparent time is obtained and converted into astronomical time. To this is added the sun's right ascension, from the *Nautical Almanac*. Apply this result (minus 24, if necessary) to the table of Pole-Star corrections, and then add the degrees and minutes to, or subtract from, the true altitude already determined. (3) Observations of the sun at meridian. The corrected altitude, which is called the true central altitude, is obtained by the use of the sextant, and subtracted from 90°. The zenith distance, N. or S. as the case may be, is given by the result. The angular distance of the sun from the equinoctial or celestial equator (the corrected declination) is then observed. If both the declination and the zenith distance be the same, N. or S., add them together; if one is N. and the other S., subtract the lesser from the greater, and the result is the latitude N. or S. as the case may be. If the sun be obscured by a cloud at the meridian, an observation is taken of it as near as possible to the meridian, and its altitude at the meridian then worked out. The same principles are observed if observations are made of the moon, or a planet. (4) Observation by means of an artificial horizon. This method, which is employed on land, is carried out by the aid of a basin, etc., filled with some reflecting medium, such as liquid tar, quicksilver, etc., and protected from the wind to keep it still. The observer should walk backwards, facing the celestial body from which observations are to be made, until its image can be seen in the reflecting medium. The sextant is then brought to bear on the celestial body, the image of which is brought down to coincide with the reflected image. The altitude of the body observed in degrees is half that shown on the sextant. From this the latitude can be calculated.

Variability of terrestrial latitude.—The latitude of a point on the earth's surface is measured from the equator, which is defined by the condition that its plane is at right angles to the axis of rotation of the earth. Therefore, if the points on which this axis intersects the earth, *i.e.* the poles, are

not fixed, the position of the equator will change, and consequently the latitude. It was shown by research about the end of the 19th century that such a change, very minute but measurable, does take place; the N. and S. poles wander round in a circle with a radius of approximately 25 ft. The theory regarding the periodicity of the change is briefly as follows. The fourteen months (429 days) term is a result of the fact that the axes of rotation, and of the figure of the earth, do not strictly coincide, but make a small angle (about ·15″ on the average) with each other. If the matter on the surface of the earth were immobile, the result of this non-coincidence would be the revolution of one pole round the other in a circle of radius ·15″ (15 ft.) in a period of 429 days; this is known as the Eulerian motion from the name of the man who discovered it. But owing to meteorological causes the motion is subject to annual change. Apart from the statical causes, that is to say, the changes of position of the deposits of snow and ice on the earth, the causes of this change are dynamical. The statical causes change the position of the pole of figure of the earth, but to an infinitesimal and negligible degree. The dynamic causes are the atmospheric and oceanic currents. If these were invariable the effect would be the Eulerian motion, not exactly round the mean pole of figure of earth, but a point slightly apart. The currents, however, vary annually, and the motion of the pole of rotation varies also. The International Geodetic Association established a series of stations round the globe, as nearly as possible at the same latitude, to make similar observations, in view of the importance of the fluctuations in position of the poles. The principal stations are at Carloforte, in Italy; Midzusawa, in Japan; Gaithersburg, in Maryland; and Ukiah, in California; all situated about 39° 8′ lat.

The longitude of a place on the earth is the angle which the terrestrial meridian from the pole through a point on the earth's surface makes with some standard meridian. As the earth turns through 360° of longitude in twenty-four hours, if the sun is on the meridian at any place it will be at the meridian on another place 15° W. of the first in one hour. Thus 15° of longitude represent one hour of difference in apparent time; all methods of determining longitude are based on this fact. Formerly each nation took its own standard meridian, but the meridian of Greenwich is now used as the standard. In astronomy the longitude of a celestial body is the distance in degrees of its projection upon the elliptic from the vernal equinox, counted in the direction W. to E. See *The Nautical Almanac*; Inman's *Nautical Tables*; Gill's *Text-book on Navigation*, 1898; H. Roper, *Navigation and Nautical Astronomy*, 1908, etc.

Latitudinarians (Lat. *latitudo*, breadth), the name applied to a school of English theologians in the 17th century who endeavoured to inculcate a more broad-minded and liberal spirit into the English Church. They opposed both the High Church party and that of the Dissenters, and strove to minimise the importance attached to particular doctrines and ceremonies. The chief representatives were Hales, Chillingworth, More, and Tillotson. Their movement was closely allied to the philosophical school of the 'Cambridge Platonists,' and they may be considered the forerunners of the Broad Church. *See* Tulloch's *Rational Theology in England in the 17th Century*, 1872.

Latium (It. *Lazio*, the country of the Latins), a div. of ancient Italy, about two-thirds the size of Wales, which extended along the coast of the Tyrrhenian Sea, south-eastward from the mouth of the Tiber, which formed the inland boundary of the N. half. *See* ROME.

La Tour d'Auvergne, Théophile Malo Corret de (1743-1800), a French captain of grenadiers, native of Carhaix, Brittany. He served with the Republican army in the Pyrenees and Alps, leading with great success his 'Infernal Column.' As he obstinately refused to be promoted, Napoleon bestowed upon him the title 'Le Premier Grenadier de France.' He was killed at Oberhausen, Bavaria. He published several books on the Bretons. *See* Simond's *Life*, 1899.

La Trappe, *see* TRAPPISTS.

Latreille, Pierre André (1762-1833), a brilliant French entomologist, native of Brives. In 1786 he became a priest, but spent most of his leisure studying insects. During the Revolution he suffered imprisonment, but arousing interest through his entomological studies, was released. He was appointed to take charge of the insects at Jardin des Plantes, Paris, and succeeded Lamarck as professor of zoology. He wrote *Genera Crustaceorum et Insectorum*, the portion 'Insects and Crustacea' in Cuvier's *Regne Animal*, etc.

Latrobe, a tn. in Westmoreland co., Pennsylvania, U.S.A., 35 m. E.S.E. of Pittsburg. Pop. (1910) 8777.

Latter Day Saints, *see* MORMON, CHURCH OF.

Latude, Henri Mazers de (1725-1805),

an adventurer, born at Montagnac, Gascony, France. He is chiefly known for his endeavour to secure a recompense and the favour of Marquise de Pompadour, by informing her of a plot, of which he himself was found to be the author. He was imprisoned in the Bastille. At the Revolution he was released as a victim of the old régime. *See* J. F. Barriere, *Mémoires de Linquet et de Latude.*

Lauban, a tn. in the Prussian prov. of Silesia, 15 m. E. by S. of Görlitz. It has an extensive cotton and linen industry. Pop. 15,467.

Laube, Heinrich (1806-84), a German novelist and playwright, born at Sprottau in Silesia. In spite of a somewhat interrupted career, his output of dramas and novels was considerable, the most famous being *Graf Essex* (1856) and *Montrose* (1859). His romances include *Die Böhminger* and *Der Schatten Wilhelm.* L. is noted for his ability

Laud, Willia : lish prelate, bury, born at Reading, Berks. Educated at Reading Free School and St. John's Col fellow in 1594, M.A. graduated ing various livings, he was made archdeacon of Huntingdon in 1615 and dean of Gloucester in 1617. In 1621 he became prebendary of Westminster and bishop of St. David's, in 1626 being transferred to the see of Bath, and two years later to that of London. In 1630 he was elected chancellor to the University of Oxford, and finally archbishop of Canterbury (1633). Throughout Charles I.'s reign L. was one of the king's most faithful supporters. He instituted rigorous proceedings against all who refused to conform to the Church of England, and endeavoured to extinguish all forms of dissent by means of fines, exile, and imprisonment. In 1640 he was impeached for high treason by the Long Parliament, and committed to the Tower (1641), tried in 1644, and executed in 1645. L. set himself the task of raising the English Church to its rightful position as a branch of the Church catholic. Of his works the most interesting is his *Diary*, 1694. See also his biography by his disciple and admirer, Heylin, under the title of *Cyprianus Anglicus*, and *Lives* by Hutton, Benson, and Simpkinson.

Laudanum, tincture of opium, is prepared by macerating opium in dilute spirit, and is a brown-coloured liquid with the characteristic smell of opium. It is administered as a soporific and for relief in gastric troubles. Its use in the case of young infants, once common, is now recognised as dangerous, and generally it is being replaced by morphine. L. poisoning should be treated by an emetic, for which purpose apomorphine is best. The stomach should be washed out by a salt solution and caffeine introduced by the mouth or in the form of strong coffee per rectum. The patient should be kept awake and walked about if possible. Failing this, artificial respiration should be resorted to.

Lauder, a royal burgh of Berwickshire in Scotland, is situated on the R. Leader. It was the historical scene of the brutal murder of Robert Cochrane and six others before King James III. in 1482. Pop. (1911) 659.

Lauder, Harry (*b.* 1870), a famous Scottish comedian and singer, born at Portobello. His first success was in Belfast, Ireland, and since then his inimitable impersonations of Scottish characters on the vaudeville stage (especially at the Tivoli) have won him deserved popularity. He has written both words and music of many of his songs—'Stop yer ticklin', Jock,' 'Ma Scotch Bluebell,' 'Roamin' in the Gloamin',' and 'A wee Deoch an Doris' being some of his best. L. first went to America in 1907, and is a great favourite there.

Lauder, Sir Thomas Dick (1784-1848), a Scottish author, born at Fountainhall, Haddingtonshire, Scotland. His talents were versatile. He was secretary to the Board of Manufactures and of Fisheries (1839-48). He published: *The Wolf of Badenoch; The Parallel Roads of Glenroy; Account of the Great Moray Floods of* 1829; 'Scottish Rivers,' in *Tait's Magazine; Tour Round the Coast of Scotland.*

Lauder, William (*c.* 1710-71), the notorious would-be detractor of Milton's honesty and literary achievements. He wrote *An Essay on Milton's Use and Imitation of the Moderns in his Paradise Lost*, in which he used falsified quotations from Massenius, Staphorstius, Taubmannus, etc., to prove plagiarism on the part of Milton. Dr. Douglas exposed L., and Dr. Johnson made him sign a retraction.

Lauderdale, John Maitland (1616-82), second Earl and first Duke of Maitland, born at Lethington (Lennoxlove), near Haddington. At an early date he was regarded as a rising hope of the ultra-covenanting party, and in 1643 became an elder in the assembly at St. Andrews, being named one of the commissioners for the Solemn League and Covenant. In 1645 he succeeded his father as second Earl of Lauderdale. In 1651 he followed Charles to Worcester

where he was taken prisoner, and detained for nine years at the Tower, Windsor, and Portland. He became Scottish Secretary of State at the Restoration, and laboured with unceasing persistence to bring about the absolute power of the crown in church and state. He was a member of the Privy Council, and had a seat in the *Cabal* ministry. In 1672 he was created duke. Intrigues were levelled against him in 1674, and in 1678 a vote was carried in the Commons asking for his removal from the royal presence, which, however, was thrown out. His chief aim was to keep Scottish affairs in Scottish hands. Chief authorities for his life are: Baillie's *Letters and Journals*, Mackenzie's *Memoirs*, and the Lauderdale papers in the manuscripts room at the British Museum.

Lauds, *see* BREVIARY.

Lauenburg: 1. A tn. on the Elbe, 25 m. S.E. of Hamburg, Germany, formerly capital of the duchy. Here are ruins of the 12th century ducal palace. Pop. 5009. 2. A tn. on the Leba in the prov. of Pomerania, Prussia, 38 m. W.N.W. of Danzig. Trade in woollens, linen, leather, machinery, and matches. Pop. 13,847.

Lauenburg, or Saxe-Lauenburg, Duchy of, a well-cultivated and fertile district of Schleswig-Holstein, Prussia. It was formerly united with Holstein under the crown of Denmark, but by the Treaty of Gastein (1865) it was ceded to Prussia. The inhabitants are engaged in agriculture and cattle raising. Chief towns, Lauenburg and Ratzeburg. Area 453 sq. m. Pop. 53,000.

Laughing Gas, *see* ANÆSTHESIA and NITROGEN.

Laughing-jackass, or Great Kingfisher, the popular name of the species of *Dacelo*, an Australian genus of coraciiform birds belonging to the family Alcedinidæ. They are so called because of their extraordinary gurgling note. *D. gigas*, the principal species, has brown plumage, with a white stripe on each side of the head. It nests in shady forest regions, but will also frequent the vicinity of houses. Its diet consists of insects, reptiles, molluscs, etc., and occasionally it will devour small mammals or birds.

Laun, a quaint town, Bohemia, Austria, at the S. base of the Erzgebirge, 35 m. N.W. of Prague. Chief industries are connected with iron goods and sugar. Pop. 11,484.

Launce, *see* SAND LAUNCE.

Launceston: 1. (ancient *Dunneheved*) A municipal bor., Cornwall, England, 22 m. N.W. of Plymouth. It played a part in the Civil War. There are copper mines and ruins of a castle and priory. Pop. (1911) 4117. 2. The chief tn. of Northern Tasmania, beautifully situated in a valley at the confluence of the N. and S. Esk rivers. It has important trade with S. Australia, and is the official and judicial cap. of the N. Pop. with suburbs, 48,300.

Launch (*Malay lanchar*, quick, speedy), a name given to one of the largest size of ship's boats, or to a boat propelled by electricity or steam.

Laundries (Lat. *lavenda*, things to be washed, *lavare*, to wash), establishments for the washing of soiled body and table linen. Laundry-work has now become an important industry and is organised on a scale very different from former days, requiring elaborate mechanical plant to replace the simple appliances once considered sufficient for domestic requirements. Articles formerly rubbed by the hands of the laundress, or stirred and beaten with a 'dolly' (viz. a wooden rod with a series of spokes at the lower end and a cross-bar handle at the upper), are now commonly treated in rotary washing-machines driven by power. The best type of rotary consists of an outer cylinder of wood or metal containing an inner horizontal cylindrical cage, in which the clothes are placed. Then the doors are closed, the machinery is set in motion and steam is admitted, the clothes being tumbled on each other in the soap and water contained in the outer casing, which enters the cylinder through perforations. The clothes are soaked in alkaline water, washed, boiled, and rinsed, all without removing them from the machine. Next comes the process of drying. The linen is taken from the machine and placed in a washer or centrifugal extractor, which consists of a perforated copper basket revolving rapidly inside an iron or steel case. The water is thrown out through the perforations in the basket by centrifugal force and the linen is ready to be taken out in about twenty minutes, the drying being completed in an apartment through which dry air is forced by fans. The next item is the ironing, many forms of machines being employed for this important part of laundry-work to enable the laundress to deal with articles of different shape. The machines, however, generally consist of a polished metal roller, heated by gas or steam, working against a felted surface in the form of another roller or flat table; or (Decoudun type) of a felted metal roller rotating against a heated concave bed of polished steel. Hand-ironing, notwithstanding, is still very general, and time is saved by continuously heating the irons by means

of gas or electricity. The city of Troy (New York) was the original centre of steam laundry interests in America.

La Union (ancient *Herreria*), a tn., Spain, prov. of Murcia, 6 m. E. of Cartagena. Iron manganese, calamine, sulphur, silver, and lead are mined. Pop. 30,000.

Laura (λαύρα, alley, possibly from Latin *lura*, mouth of a bag), a name given to a number of cells which were inhabited by ascetics or monks in the deserts of the East. St. Charito appears to be the first to have founded a laura.

Lauraceæ, an order of dicotyledonous plants containing over 1000 species. They are all evergreen trees and shrubs, many are aromatic, and the climate they prefer is a temperate one. The inflorescence may be either racemose or cymose, the flower is hermaphrodite or monœcious, and usually in parts of three; the ovary is unilocular, and has one ovule; the fruit is a berry. Two of the chief genera are *Cinnamomum* and *Laurus*.

Laurahütte, a tn. in Silesia, Prussia, and owns huge iron works. It is 5 m. S.E. of Beuthen. Pop. 16,118.

Laureate, Poet (Lat. *laureatus*, from *laurea*, the laurel tree), a title conferred by letters-patent from the English crown on the poet attached to the royal household. Its origin is involved in some obscurity. In ancient Greece the laurel wreath formed the crown of honour of poets and heroes, and thus the word 'laureate' came to mean in English 'eminent,' generally, though not always, in a literary sense. *The mediæval kings had poets or* minstrels attached to their households who received pensions, though the appointment was not official. In this way Ben Jonson was looked upon as the first L., but the title seems never to have been really conferred upon him, John Dryden being the first English poet to receive the title by letters-patent in 1670. From this time onwards the post became a regular institution, the most celebrated Ls. being Southey (1813-43), Wordsworth (1843-50), Tennyson (1850-92), and Alfred Austin (1896-1913). Dr. Robert Bridges now (1913) holds the position. The P. L. generally produces formal and appropriate verses on public and state occasions, though the custom at the present day is not obligatory. *See* W. Hamilton's *Poets Laureate of England*.

Laurel, a term properly applied to the two species of *Laurus*, the chief genus of Lauraceæ, but it is also used in a compound name of other plants, *e.g.* cherry-L. (*Prunus*), spurge-L. (*Daphne*), and seaside-L. (*Phyllanthus*). *L. nobilis*, the true L. or sweet bay, is to be found round the Mediterranean, and its aromatic leaves are used in condiments; *L. canariensis* is a native of the Canary Islands.

Laurel, Cherry, or *Prunus Laurocerasus*, a species of Rosaceæ, closely allied to the bird-cherry, almond, and plum. *See* CHERRY.

Laurencekirk, a tn., Kincardineshire, Scotland, 26 m. S.S.W. of Aberdeen. Pop. (1911) 1438.

Laurent, Auguste (*1807-53*), an eminent French chemist, born near Langres, France. L. is chiefly noted for his discoveries with Gerhardt in connection with the homologous series and the theory of types. He was appointed professor of chemistry at Bordeaux in 1838, and warden of the mint, Paris, in 1848. L. did important research work in naphthalin, paraffin, and phenol.

Laurentum, cap. of the ancient kingdom of Latium, Italy (*q.v.*). L. was made the chief tn. of the kingdom under Latinus, the first king. Later, the capital was changed to Lavinium, and again to Alba.

Lauria, a city of Potenza prov., Italy, 42 m. S. of Potenza. Pop. 10,000.

Laurier, Sir Wilfrid (*b.* 1841), a Canadian politician and statesman, born at St. Lin, L'Assomption co., Quebec. Educated at L'Assomption College and M'Gill University, where he studied law. From 1865-66 he was vice-president of the Institut Canadien (Montreal). In 1871 he entered parliament, and was quickly recognised as the Liberal leader in Quebec province. In 1874 he became a member of the *Federal Assembly, and in 1877 was* a minister of Inland Revenue in the Mackenzie ministry. In 1878 he was defeated at the General Election, but re-elected in 1882, 1887, 1891, and 1911. In 1896 he became the first French-Canadian Premier of the Dominion, in which post he observed a policy of discrimination in favour of British products and of protection against the United States. His party was defeated in 1912. *See* Willison, *Sir Wilfrid Laurier and the Liberal Party*, 1903.

Laurine, the fatty principle of laurel-berries; in appearance it is crystalline, and to the taste it is bitter.

Lauriston, Jacques Alexandre Bernard Law, Marquis de (*1768-1828*), a general, and ultimately Marshal of France, born in Pondicherry, India. He distinguished himself in the Republican army campaigns, becoming aide-de-camp to Napoleon in 1800. In 1802 Napoleon sent him to England with the ratified treaty of Amiens. He also went on diplomatic missions to Denmark and Russia. He commanded the rearguard in the retreat from Moscow.

Laurium, a tn. in Houghton co., Michigan, U.S.A., 42 m. N. of L'Anse. Here is situated one of the largest copper mines in the U.S.A. Pop. (1910) 8537.

Laurium, a mountain in the S. of Attica, Greece. In ancient times its silver mines produced large supplies, but became exhausted. During the second half of the 19th century, however, they were again worked, and silver, lead, cadmium, and manganese were found. There is a railway connection between these mines and Athens.

Laurvik, a seaport in the prov. of Jarlsberg, Norway, standing on a fjord to the S.W. of Christiana. It is noted for its sea baths, while among its industries are shipbuilding. It exports timber among other products. Pop. 10,151.

Lausanne, the cap. of the canton of Vaud, Switzerland, on the N. shore of Lake Geneva. It has a very fine cathedral dating back to the 13th century, a university, a museum of natural history, and an art gallery. It is the seat of the Federal tribunal, and was the residence of Gibbon, who wrote part of his *Decline and Fall of the Roman Empire* here. It manufs. tobacco, machinery, and chocolate. Pop. 63,926.

Lausitz, *see* LUSATIA.

Lauterbrunnen, a vil. and valley in the canton of Bern, Switzerland. T village stands on the White Lü chine R., about 6 m. S.E. of Int laken, and in the valley of Laut brunnen, famous for its scenery a its waterfalls, the largest being t... Staubbach, over 800 ft. high. L. is connected with Mürren an 2600.

Lauzun, ... Cau- mont, Mar ...uc de (1632-172... and soldier, a ... XIV. He was involved in many court intrigues with Mme. de Monaco, Mme. de Montespan, the Duchess of Montpensier, etc., and was several times imprisoned. In 1685 he came to England and served James II. for many years.

Lava, the substance which is emitted in a liquid state from the crater of a volcano. Ls. are divided into different classes, the quality of the L. depending on the amount of silica which it contains. Those which are known as 'basic' contain less silica than the others, and consequently flow for much greater distances, as they take much longer to solidify. The exterior or crust of a stream of L. cools quickly when exposed to the air, and the molten L. which is underneath often breaks through this crust and continues its course, thus disturbing the evenness of the original surface and forming loose blocks of material.

Lavadores, a tn. in the prov. of Pontevedra, Galicia, Spain, situated on the coast. Pop. 15,000.

Laval, the cap. of the dept. of Mayenne, France, on the Mayenne, 45 m. E. of Rennes. It possesses a castle and cathedral. It is also engaged in the manuf. of linen. Pop. 30,000.

La Valetta, *see* VALETTA.

La Vallière, Françoise Louise de Lebaume Le Blanc, Duchesse de (1644-1710), the famous mistress of Louis XIV. When Athénais de Montespan became a royal favourite, La V. retired to a Carmelite nunnery in Paris, where she lived the remaining thirty years of her life. She published *Réfl ... Dieu par ... See* Lives ... and Jules ...

Laval - ... Xavier de ... Canadian ... France. E ... vicar of t ... Bishop of ... founded the seminary of Quebec (1663). From 1674-83 he was titular bishop of Quebec. Laval University (Quebec) is named after him.

Laval University, a French Catholic ... founded in 1852 at ... maintained by ... . By a papal ...nstitution was ... the supervision ...ct of the Propaganda at Rome, and is controlled by a council composed of the archbishops and bishops of the province of Quebec. There are faculties of theology, law, medicine, and arts, and the usual degrees are conferred.

Lavater, Johann Kaspar (1741-1801), a Protestant clergyman and writer, a native of Zürich. After finishing his education he took orders in the Protestant church in 1762 and was afterwards appointed to the church of St. Peter. He had before this, however, begun his career as a writer by a book of Swiss poems called *Schweizerlieder* (1767). His other works are *Aussichten in die Ewigkeit*, 1768-78, and *Physiognomische Fragmente zur Beförderung der Menschenkenntniss und Menschenliebe*, 1775-78; the latter being his greatest work on physiognomy.

Lavaur, a tn. in the dept. of Tarn, France, situated on the Agout, 25 m. E. by N. of Toulouse. It is engaged in the silk manuf., and possesses an old cathedral. Pop. 6400.

Laveleye, Emil Louis Victor, Baron de (1822-92), a political economist,

born at Bruges. After studying at Ghent he was made professor of political economy at Liège (1864). Among his chief works are: *De la Propriété et de ses Formes primitives*, 1874; *Le Socialisme contemporain*, 1881; *Eléments d'Economie politique*. He also contributed articles to reviews of various countries. See *Life* by A. J. Goblet, Count d'Alviellas, 1895.

Lavender, the name given to the various species of the labiate genus *Lavandula*, which consists of hoary, narrow-leaved, fragrant bushes, inhabiting S. Europe, the Canaries, Barbary, Egypt, Persia, and W. India. The flowers are generally blue, and yield much honey to bees. *L. vera*, the common L., and *L. spica*, the spike L., are the two best-known species, and yield the oil used in the manufacture of L. water.

Laver was, in the tabernacle of the Jews, a vessel of brass, used by the priests at the time of sacrifice for cleansing purposes.

Lavery, John, A.R.A. (*b.* 1857), a portrait painter, native of Belfast, Ireland. In 1883 his 'Two Fishers' was exhibited in the New Salon, and 'The Tennis Party' (Munich Pinakothek) at the Royal Academy (1887). His best known works are: 'Mother and Son'; 'White Feathers'; 'A Lady in Black.' 'The Visit of Queen Victoria to the Glasgow Exhibition' (1888) is hung in the Glasgow Gallery.

La Villemarqué, Théodore Claude Henri Hersart, Vicomte de (1815-95), a French scholar [illegible] One of his earlies[illegible] tion of Breton [illegible] 1839. Among h[illegible] *Contes Populaires des Anciens Bretons*, 1842; *Poèmes des Bardes Bretons*, 1850; *Poèmes Bretons du Moyen-age*. He also edited *Dictionnaire Français-Breton*, 1857.

Lavinia, in Roman mythology, was the daughter of Latinus, a king of Latium, and the wife of Æneas.

Lavinium, an old Roman tn. of Latium, Italy, 16 m. S.E. of Rome. In the time of the Emperor Trajan Laurentum was united with L. The modern town on the site is called Pratica.

Lavisse, Ernest (*b.* 1842), a French historian, born at Nouvion-en-Thiérache. In 1888 he was made professor of modern history at Paris, and elected a member of the French Academy in 1892. Among his works are: *Etudes sur l'histoire de Prusse*, 1879; *La Jeunesse du Grand Frédéric*, 1891; *Trois Empereurs d'Allemagne*, 1888; *Histoire de France depuis les origines jusqu'à la Revolution*, 1900; and in collaboration with A. N. Rambaud, *Histoire générale du VI^e Siècle à nos Jours*, 1893-1901.

Lavoisier, Antoine Laurent (1743-94), the founder of the modern system of chemistry, born in Paris, and in 1768 became a member of the Academy, and just after was appointed *fermier-général*. His chief theories and discoveries are those connected with combustion, as he showed that in the process the substance was united with the oxygen of the atmosphere. To him also is due in a great measure the modern system of naming in chemistry. During the Reign of Terror, in spite of what he had done for France, L. was regarded with the same suspicion as the other *fermiers*, and was guillotined. He wrote *Traité Elémentaire de Chimie*, 1789. See *Biog. Sketch* by Edouard Grimaux (1895).

Lavoro, Terra di, a part of Italy now forming the prov. of Caserta (*q.v.*).

Lavos, a tn. in Beira, Portugal, on the Mondego R., and about 24 m. S.W. of Coimbra. Pop. 8000.

Law. Two ideas may be said to be connoted by the term L.: (1) command, (2) order. The former is implicit in the body of principles observed and acted upon by the state in the administration of justice. The English school of analytical jurisprudents, of which Austin was the head, defines positive law as a command imposed upon an inferior by a superior. Modern thought regarding sovereignty, as inherent in the people and government as resting purely on consent, denies the validity of this definition, and perhaps the following definition by Professor Holland is more in accordance with fact: 'Law in general is the sum total of those general rules of action as are enforced by a sovereign political authority' (*see* on this LEGISLATION, JURISPRUDENCE). The continental jurists regard positive L. (*positus*, i.e. *settled* by man) as only a narrow species of L. proper, and when talking of L. in the abstract deviate into scientific conceptions of rights and justice, giving to morality a positive force disguised under the name of 'natural laws.' The connotation of order is uppermost in ancient nomology (Gk. νόμος, law). Classical jurists and philosophers, observing an in[illegible] 'ions of [illegible] to the [illegible] deity, [illegible] ied the notion of a supreme lawgiver, to activities of a universe moving according to law. The earlier recognised no separation of varied phenomena into physics, theology, ethics, and jurisprudence, but deemed everything to be of divine contrivance; the later distinguished between sciences relating to external nature and those

relating to human activities, but L. was the common term, denoting in the one the method of the phenomena of the universe, in the other the abstract idea of rules regulating the actions of mankind. *See* Holland's *Jurisprudence*, Austin's *Jurisprudence*, Kant's *Philosophy of Law*, and Bentham's *Traité de Législation*.

Law, Rt. Hon. Andrew Bonar (*b.* 1858), a British politician, born at New Brunswick. He was formerly an iron merchant of Glasgow, and chairman of the Glasgow Iron Trade Association. He was returned to parliament in 1900 by the Blackfriars Division of Glasgow, and was appointed Parliamentary Secretary of the Board of Trade (1902-6). From 1906-10 he represented the Dulwich Division of Camberwell, and since 1911 has been M.P. for Bootle. On the resignation of Mr. Balfour in 1911 he was chosen Leader of the Opposition.

Law, Edmund, D.D. (1703 - 87), Bishop of Carlisle. After graduating at St. John's College, Cambridge, he was elected fellow of Christ's College (1727), and ten years later was presented by the university to the rectory of Graystock in Cumberland. In 1743 he became archdeacon of Carlisle, and returned to Cambridge in 1756 as master of Peterhouse; he was appointed librarian to the university in 1760, and Knightbridge professor of Moral Philosophy in 1764; and became bishop of Carlisle in 1768. He was an earnest student of Locke, whose works he edited in 1777. His own most important philosophical work is *Considerations on the State of the World with regard to the Theory of Religion*, 1745.

Law, John (1671 - 1729), originator of the 'Mississippi Scheme,' was born at Edinburgh. Having killed his antagonist in a duel, he fled to Holland in 1694, where he studied banking, and in 1700 proposed to the Scottish parliament a system of paper currency. In 1716 he set up a private bank in Paris, and soon afterwards persuaded the Regent to found a national bank, which issued banknotes and raised the credit of the government. His Mississippi scheme, which was at first enormously popular, proved a disastrous failure, and L. fled from Paris in 1720, and died in poverty at Venice. *See* Thiers, *Law et son système des finance*, 1826, and a *Life* by Wood (1824).

Law, Thomas Graves (1836-1904), a Scottish historian and bibliographer, born at Yeovilton in Somersetshire. Under the influence of Father Faber, he entered the Brompton Oratory in 1855, but left the Church of Rome in 1878. In the following year he was appointed curator of the Signet Library, Edinburgh, and was one of the founders of the Scottish History Society. Author of *The Conflicts between Jesuits and Seculars in the reign of Queen Elizabeth*, 1889; *Catholik Tractates of the Sixteenth Century*, 1901; *Collected Essays and Reviews*, 1904, etc.

Law, William (1686-1761), an English divine, born at Kingscliffe in Northamptonshire. In 1711 he was ordained and elected fellow of his college, but on the accession of George I., being unable to take the oath of allegiance, he forfeited his fellowship, and became a non-juror. About 1727 L. became private tutor to Edward Gibbon, father of the historian. After the death of Edward Gibbon (1737), L. retired to Kingscliffe, where he was joined by Mrs. Hutcheson, a widow, and Miss Hester Gibbon, who devoted themselves to charitable works and holy meditation. L. was a keen dialectician His controversial writings include *Three Letters to the Bishop of Bangor*, 1717; *Remarks on Mandeville's Fable of the Bees*, 1723 (republished by F
Case of Rea
to Tindal's
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Perfection,
to a Devo
which had a profound influence on the leaders of the Evangelical Revival, and moved Dr. Johnson and Lord Lyttelton and Gibbon, still remain the most popular of L.'s works. The influence of Jacob Boehme is seen in the mysticism of his later works, *The Spirit of Prayer*, 1749, 1752; *The Way to Divine Knowledge*, 1752, and *The Spirit of Love*, 1752, 1754. *See* C. Walton's *Notes and Materials for a Complete Biography of W. Law*, 1848; Canon Overton's *William Law, Nonjuror and Mystic*, 1881; Dr. Whyte's *Characters and Characteristics of William Law*, 1892; and Moreton's collected edition of Law's works, 1893.

Law-burrows, in Scots law are official documents or letters obtainable by a person who apprehends personal or proprietary damage at the hands of another. The letters order the person specified to give security to keep the peace under a penalty, the amount of which varies according to the rank of the offender. On the execution of the L., the person against whom they are directed must find caution (*q.v.*) to the stated amount and lodge the caution in the Bill Chamber. If the direction in the L. be contravened, both the person named and his cautioner are liable to an action of contravention of L. for the stipulated penalty.

Law Courts, *see* COUNTY COURTS, COURT OF SESSION, ROYAL COURTS OF JUSTICE, SUPREME COURT, etc.

Lawes, Henry (c. 1596-1662), a composer, was a pupil of Coperario, and in 1626 became a gentleman of the chapel. In 1633 he, with Simon Ives, wrote the music for a masque which was played at Whitehall, and in the next year composed the music for Milton's *Comus*. He wrote, among other works, *Choice Psalms put into Music for Three Voices*, 1648.

Lawes, Sir John Bennet (1814-1900), an agriculturist, was educated at Eton and Oxford, and after spending some time in the study of chemistry, began in 1834 a regular system of agricultural experiments. These he carried on at Rothamsted, on the family estate. Soon after, however, he opened works near London for the purpose of producing a mineral superphosphate to be used as a manure. He was assisted in his efforts, both literary and agricultural, by Dr. Gilbert. He became a fellow of the Royal Society in 1854, and the recipient of numerous medals.

Lawfeldt, or Laveld, a vil. of Belgium, situated near Maestricht, in the prov. of Limburg. Here in 1747 the Duke of Cumberland was defeated by the French.

Law Merchant. The L. M., or *Lex Mercatoria*, was a branch of the Law of Nations (*see* JUS GENTIUM), and its principles were those which regulated the affairs of commerce. It was very old-established, largely rooted in mercantile customs, and administered by special courts outside the jurisdiction of the common law. Under the celebrated Chief Justice Lord Mansfield, the special courts gave place to the common law courts, and the floating customs of the L. M. were crystallised into a system and incorporated into the body of the common law. English mercantile law (the term L. M. is never used at the present day) no longer pays any regard to international customs, relying solely on English trade usage. Any fresh custom which satisfies certain conditions will become part of the law, *e.g.* certain instruments may by custom become negotiable (*see* CUSTOMS and MERCANTILE LAW).

Lawn, a fine linen (*q.v.*).

Lawn Tennis, a game played by two to four persons with a racquet and ball across a net stretched over a court. It is an out-of-door summer game, and may be played on a grass lawn, on asphalt, cinders, or gravel. In winter the game may be played indoors on a 'covered' court. The court must be kept perfectly smooth and firm, and is marked with right-hand and left-hand courts and a service line. A court should be 78 ft. long and 36 ft. wide for a double game, 27 ft. for a single-handed game. In a single-handed game, the server must stand behind the base-line, beginning the game from the right-hand court and afterwards serving from alternate courts. He must serve the ball diagonally across the court so that it falls within his opponent's service-court or upon the lines enclosing the service-court. If the ball touches the net, the service otherwise fulfilling the above conditions, it is counted as a 'let,' and the server serves again from the same court. If the server fails to fulfil any of the above conditions, the service is a 'fault.' Two faults count a point to the opponent. If the first service, however, fulfils the required conditions, it 'counts,' the server may not serve again, and his opponent or the 'striker-out' must hit back the ball after the first bounce. Afterwards the ball may be volleyed on either side, or it may be hit after it has touched the ground once. If either player fails to hit the ball over the net, or only hits it after the second bounce, or hits it so that it falls outside his opponent's bounding-lines, his opponent wins a point. In a four-handed game, the service is returned alternately by the two opponents, who keep to the same side of the court throughout the game. The service is arranged so that each player serves one game out of four; thus, if A and B play C and D, the order of service is A C B D.

The method of scoring.—A player on winning his first point counts 15; on his second, 30; on this third, 40. If he wins a fifth stroke, before his opponent has reached further than 30, the game is his. If, however, both players have won three strokes, the score is 'deuce.' Whoever wins the next st[illegible] if he is [illegible] is the [illegible] comple[illegible] two points in succession after 'deuce.' The player who first wins six games wins a set. Consult F. W. Payn, *Tennis Players and Tactics*, 1906, and A. W. Myers, *The Complete Lawn Tennis Player*, 1908.

Lawrence: 1. A city and cap. of Essex co., Massachusetts, U.S.A., on both sides of the Merrimac R., 26 m. to the N. of Boston. It has some of the largest mills in the world, the 28 ft. fall of the river and a large dam providing excellent facilities for working them. The manufactures include cotton, woollen cloth, and paper as well as steam engines and machinery. Pop. (1910) 85,892. 2. A tn. in New Zealand, on the South Island, with rich gold mines near. Pop. 1100.

3. The cap. of Douglas co., Kansas, U.S.A., on the Kansas R. It possesses the Kansas University, and has manufs. of paper, flour, carriages, and iron. Pop. (1910) 12,374.

Lawrence, Sir Henry Montgomery (*1806-57*), *a British soldier and statesman*, elder brother of the first Lord L. was born at Matara in Ceylon. He joined the Bengal Artillery at Dum Dum in 1823, and took part in the first Burmese War (1828), the first Afghan War (1838), and the Sikh

self was mortally wounded by a shell on July 2, 1857, and died two days later. See *Life* by Sir Herbert Edwardes and Herman Merivale (1872-73), and by McLeod Innes (1898).

Lawrence, John Laird Mair, Lord (1811-79), viceroy and governor-general of India, was born at Richmond, Yorkshire. He entered the Indian civil service in 1829, and acted as magistrate and land revenue collector in the neighbourhood of Delhi. On the annexation of the Punjab, he was appointed chief commissioner and afterwards lieutenant-governor, and succeeded in establishing order and winning the affection of the once troublesome Sikhs. When the news of the Mutiny reached him, he raised a new army of 59,000 men, and after a siege of three months captured Delhi. On his return to England (1858), the 'saviour of India' was created a baronet and granted a life pension of £2000 a year. He succeeded Lord Elgin as governor-general of India (1863), and was promoted to the House of Lords in 1869. See his *Life* by Bosworth Smith (1885), Sir Richard Temple (1889), and Sir Charles Aitchison (1892).

Lawrence, Mrs. Pethick, an English leader of the 'Suffragette' (*i.e.* Women's Suffrage) movement. Emmeline Pethick was born in Bristol, and after several years of social work in the East End of London, married Mr. F. W. Lawrence, editor and proprietor of the then London evening paper, *The Echo*. Became, with her husband, a socialist, and in 1906 was made ho... 'militant' ... tion, the ... held till l... been imprisoned for events connected with the suffragette agitation. In 1912 she left the union because she and her husband dissented from some of its extremer methods. In 1913 she was joint-editor with Mr. L. of the paper founded by them, *Votes for Women*.

Lawrence, Sir Thomas (1769-1830), *an English portrait painter*, born at Bristol. He entered the Royal Academy in 1787, and was elected an associate in 1791, and a full member in 1798. He succeeded Reynolds as principal painter to the king (1792), and became the fashionable portrait painter of his age. From 1820 till his death he was president of the Royal Academy. A representative collection of his work may be seen in the Waterloo Gallery, Windsor. *See* D. E. Williams' *Life and Correspondence of Sir T. Lawrence*, 1831; Gower's *Sir T. Lawrence*, 1900; and Layard's *Sir Thomas Lawrence's Letter Bag*, 1906.

Lawrence, Sir William, first Baronet (1783-1867), an English surgeon, born at Cirencester. He became demonstrator in anatomy at St. Bartholomew's Hospital (1801), member of the College of Surgeons (1805), F.R.S. (1813), assistant-surgeon (1813), surgeon (1824-65), and lecturer on surgery (1829-62), at St. Bartholomew's. His most important works are: *Treatment of Hernia*, 1806; *On the Venereal Diseases of the Eye*, 1831; and lectures on anatomy (1816 and 1819), and on surgery, 1863.

Lawrence, St. (*d. c.* 258 A.D.), an early Christian martyr. He is said to have been born at Huesca in Spain, and in the pontificate of Sixtus I. he became a deacon at Rome, and was called upon by Valerian to deliver up the church treasures. He brought forward the poor and the sick as his treasures, and was condemned to suffer death by burning on a gridiron. His day is Aug. 10. *See* ESCURIAL.

Lawrence, St., River, *see* ST. LAWRENCE.

Lawrenceburg, a city, and cap. of Dearborn co., Indiana, U.S.A., 22 m. W. of Cincinnati. Brewing, distilling, and the manuf. of flour are the chief industries. Pop. (1910) 3930.

Law Reports are to be distinguished from the reports of legal proceedings in newspapers. L. R. are concisely written accounts of the arguments and judgments in such cases before the courts as involve in their decision some new legal principle or the novel application or the extension or limitation of an existing principle. Such reports are essential in any system which pays regard to precedent and recognises the value of judiciary or 'judge-made' law. There are in England at the present day multitudinous reports both private and official. Among the best of the un-

official reports are those of the *Law Times*, *The Law Journal*, *The Justice of the Peace*, and *Times*, cited respectively as L.T.R., L.J., J.P., and T.L.R. The abbreviated citations of the official reports are A.C. (appeal cases), L.R.K.B., and L.R.C.D., with the year and number of volume preceding. The official law reports only commenced on Nov. 2, 1865, and their institution was due to the exertions of W. T. S. Daniel, Q.C., a former county court judge. Law reporting is an art requiring considerable legal training and an acute eclectic power. Many barrister-reporters of the Council of Law Reporting have subsequently acquired judicial or professional distinction. There are also the official Irish reports, but the various Scottish L. R. published for the faculty of advocates are not official. The Indian L. R. are published under the authority of the

A similar system of federal and states reports has reached its full development of the U.S.A. It is to be observed that official L. R. have, as such, no superior title to judicial respect to such unofficial reports as have gained a first-rate reputation.

Laws, Robert, M.D., D.D., F.R.G.S. (*b.* 1851), a missionary in Africa, born in Scotland. He took his medical degree, and was also ordained to the United Presbyterian Church. This church offered his services as one of those to go out to Africa on the mission in memory of David Livingstone. In 1875 he, with others, set out for Nyasaland, and it was chiefly due to his efforts that the mission station of Livingstonia was founded there. *See* James W. Jack, *Daybreak in Livingstonia*, *also* LIVINGSTONIA.

Lawson, Cecil Gordon (1851-82), a landscape painter, born at Wellington, Shropshire. He began painting at a very early age, and in 1866 made a sketching tour in Kent, Surrey, and Sussex. His pictures were first hung at the Royal Academy in 1870; after this, however, several of them were rejected, and in 1875 he sent up a much larger work, entitled 'The Hop Gardens of England,' painted at Wrotham in Kent. This also was refused until the following year. 'The Minister's Garden,' was one of the first pictures to bring him fame. See *Memoir* by E. W. Gosse, 1883.

Lawson, Sir Wilfred, second Baronet (1829-1906), a politician, was first returned to parliament as a member for Carlisle in 1859. From 1886 to 1900 he represented Cockermouth, and from 1903 to 1905 the Camborne Division, Cornwall. He was an ardent advocate of temperance, and so early as 1864 introduced a local veto bill which provided that the public-houses in any district should be closed where two-thirds of the inhabitants expressed a wish to this effect. The bill, of course, was thrown out by a great majority. In 1867 he succeeded to the baronetcy. Very sincere, he urged his views alike in the House as on the platform in a simple style, strongly tinged with humour. Denounced as a faddist, he was nevertheless always listened to in the House. There is a *Memoir* by G. W. E. Russell, 1909.

Law Terms, *see* TERMS.

Lawyer, a generic term embracing any one versed in the law, or who follows the profession of the law, or practises in the law courts. It now includes jurists, judges, barristers nsel, and solicitors, though y there were also attorneys, pleaders, and proctors. At- corresponded to the pro- s of the civil and canon law, but by the Judicature Act, 1873, they were denominated *solicitors*, a term once appropriated exclusively to a legal agent who practised in the courts of equity. Special pleaders were those members of the Inns of Court, whose occupation was confined to giving opinions, and drawing pleadings. These functions are now performed by counsel in the ordinary course of their duties. Proctors, who were analogous to solicitors, and practised in the Court of Arches, are now classed as solicitors.

Layamon, Lawaman, or Lagemann (M.E. *Lazamon*, judge, juror) (*fl. c.* 1200), an English priest, famous as the author of a semi-Saxon paraphrase of Wace's poem, *Roman de Brut* (1155). A poetical version of the legendary history of Britain, it recounts the doings of Brutus (Brut), great-grandson of Æneas, his landing in Britain, and the history of the land down to Cadwalader's death. Two valuable MSS. are in the British Museum, and were edited with translation by Madden (1847). *See* Marsh, *Origin and History of the English Language*, 1865.

Layard, Sir Austen Henry (1817-94), an English archæologist and diplomatist, noted for his discoveries in Asiatic Turkey. He began his excavations at Nineveh (1845). L. was Under-Secretary for Foreign Affairs (1852, 1861-66), M.P. for Southwark (1860-70), minister to Spain (Madrid, 1869-77), and ambassador at Constantinople (1877-80). He was Commissioner of Public Works under Gladstone (1868). His publications

include: *Nineveh and its Remains*, 1848; *Nineveh and Babylon . . .*, 1853; *Monuments of Nineveh*, 1849-

ancient sculptures and bas-reliefs, now in the British Museum. He was in the Crimea during the war, and on the committee appointed to inquire into the conduct of the expedition. See *Autobiography and Letters*, 1902; *Life* by Bruce and Otway, 1903; Lane-Poole, *Life of Stratford Canning*, ii.; *Celebrities of the Century*, 1890.

Layering, a term used in horticulture, indicates a method of propagating plants by layers. A shoot of a plant, while still attached to its parent, is bent down into the soil, where it strikes root and ultimately becomes a separate plant.

Lay-reader, in the Anglican Church, a layman licensed by the bishop to read morning and evening prayer (except the absolution), to officiate at funerals, and to read the sermons of approved divines. In the time of St. Cyprian, Ls. were an inferior order of clergy. The reformed Prayer-Book of Edward VI. contained an office for the admission of readers, which became extinct in the 18th century.

Lazareff (or **Lazaref**), **Port**, a fine harbour of Broughton Bay, E. coast of Korea, at the mouth of the R. Dungan. There are deposits of gold near by.

Lazaretto: 1. A lazar-house or hospital for lepers, dedicated to St. Lazarus. These houses existed throughout Europe in the middle ages, and were established not solely for lepers but for the sick poor. Since about the 14th century, leprosy has been steadily declining in Europe and is found only in limited districts, in Norway, Iceland, Russia, and a few other countries. Modern leper-hospitals exist at Bergen (Norway), Tracadie (New Brunswick), Robben Is. (Cape Town), and several are in India. 2. A place for the performance of quarantine, established for the reception of goods or passengers or crew of a ship suspected of certain infectious diseases, such as yellow fever, plague, or cholera.

Lazistan, a coast dist. of Asia Minor, on the S.E. of the Black Sea, forming part of Trebizond. Part of it, with the port Batum, came under Russian control (1878), the rest is still Turkish. The inhabitants (Lazes) are mostly Mohammedans, and their language resembles the Georgian.

Lazulite (a mineral), *see* LAPIS LAZULI.

Lazzaroni (It. beggars), a name given to the lowest class of the population in Naples. The name originally signified lepers.

Lé, or **Leh**, a walled tn. of Kashmir, India, cap. of Ladakh, in the Indus Valley. It has several Buddhist temples, the rajah's palace, and other buildings. Extensive transit trade is carried on with the Punjab and Tibet (E.) and Chinese Turkistan . . . Shawl- . . British . . d here.

Pop. 4000.

Lea, or **Lee**, a riv. of England rising in S. Bedfordshire. It flows S.E., past Luton into Hertfordshire, E. past Hertford and Ware, S. between Hertfordshire and Essex, bounds Herts and Middlesex on the E., finally joining the Thames at Blackwall, below the Isle of Dogs. It is navigable for 28 *m.*, and noted for fish.

Leach, William Elford (1790-1836), an English naturalist and physician. He became assistant librarian of the natural history department in the British Museum (1813), assistant curator (1821), soon after retiring through ill-health. He discovered the genus of long-tailed decapodous Crustacea which he called *Atya*. His works include: *The Zoological Miscellany . . .*, 1814-17; *Systematic Catalogue of the Specimens of Indigenous Mammalia and Birds in the British Museum*, 1816; *A Synopsis of the Mollusca of Great Britain . . .*, 1852; *A Monograph on British Crabs*, 1815-16. *See* Wood's *Naturalist*, ii.; Thomas, *Universal Dict. of Biog.*, iii.

Lead, a city of Lawrence co., S. Dakota, U.S.A. Has one of the largest gold mines in the world, and carries on manuf. of gold-jewellery. Pop. (1910) 8392.

Lead (symbol Pb, atomic weight 207, specific gravity 11·4), a soft bluish-grey metal, which can easily be scratched by the nail and marks paper. It is malleable, tough, and flexible, but not ductile nor tenacious. It melts at 325° C., and at temperatures just below this point it becomes very brittle. Dry air at ordinary temperatures has no effect on it, but when exposed to moist air it becomes covered with a white film of basic carbonate. On heating to redness in air it oxidises readily and forms litharge. It is dissolved by nitric acid and slightly attacked by strong sulphuric acid, but dilute hydrochloric or sulphuric does not attack it.

Commercial L. is one of the purest metals of commerce, impurities being usually the merest traces. Copper is sometimes present, which is objectionable when the L. is required to form white L. or red L. in certain cases. The most widely distributed ore is termed Galena (PbS), and smelting processes are all designed for the treatment of this compound. The

galena always carries more or less silver, so that the separation of this element is nearly always involved in the process. When the crushed ore is delivered to the smelting house it will be found to contain nearly 80 per cent. of L., as the earthy material (gangue) is easily removed owing to the great weight of the metal.

We shall consider three processes for the smelting of the L.: (1) The Flintshire Air-Reduction process, (2) the Blast Furnace process, (3) the Scotch process. These smelting processes differ in the type of furnaces used. The Flintshire process has been used for a very long period in N. Wales for the reduction of the unusually pure L. ores found there, the gangue in this case being usually a carbonate of lime. The furnace is a large reverberatory one, having a hearth which slopes to a well, from which the molten L. is tapped. A lining of grey slag is used to prevent contact with the brickwork. The charge, consisting usually of about a ton of galena, is roasted at a dull red heat for two hours, during which period it is frequently turned. The fire is then made up and the L. begins to run down to the well, on the surface of which there will be a floating mass of clotted galena and gangue. To this lime is added, the mixture again roasted, and the cycle completed as above. This process is called the air-reduction process, because no external agent except air is employed. The galena is oxidised into the oxide and sulphate of L. with the evolution of sulphur dioxide, and these L. compounds further react with more galena, forming pure L. and sulphur dioxide.

In Cornwall the L. ores were abundant, but the gangue was largely composed of silica, so that a modification of the Flintshire process was introduced. After the preliminary roasting the charge was melted rapidly so as to extract as much L. as possible, then to the fused mass scrap-iron as well as lime was added. This mixture melted out in three layers: (1) lead; (2) a regulus containing the iron and various other metals present in the original ores; (3) a slag containing chiefly silicate of iron which was thrown away.

In the N. of England a small blast furnace is used, simply consisting of a brick shaft with a sloping iron bed-plate. This shaft is lined with fire-brick for about a height of 4 ft. Through the back comes a single tuyère about a foot above the bed, and a charging space is left above the iron plate called the fore stone, which closes the front. The L. trough is an iron pan, the larger part of which is filled with coarse cinders, and separated from the rest by a vertical partition, which does not quite reach the bottom. The bed plate is now covered with a sloping mass of coal ashes to about 1 in. below the tuyère, the fire is then made up with coke and peats, and then the blast is turned on. When the furnace is hot, slag and ore and the fused mass over from a previous charge (browse) are introduced. As the reduction goes on, the L. sinks through the ashes on the bed plates, and runs into the troughs and filters through the cinders into the smaller division, whence it is tapped into moulds. Charging is kept up for about seven hours, and then the supply is stopped, and the furnace is allowed to burn itself out. The interior is thoroughly cleaned out and fresh ashes and cinders are put in, the slag remaining from the previous charge being of course replaced in the furnace. The L. so obtained is hard and somewhat impure.

The last process is the Scotch ore hearth: in this case there is an iron sump some 2 ft. square, and 6 in. deep, set in masonry, and surrounded on three sides by iron bars some 8 in. square. The bars are called the side stones and the back stones. Under the back stone is the single tuyère. The front of the hearth has a sloping plate in which is a gutter, down which the L. flows into a trough. The open back opposite to the back stone carries a girder which supports a small flue for carrying off the fumes. When working the method of procedure is as follows: The sump is filled with L. and on to this ore and fuel is piled up to the level of the side stones. The workman then stabs a rod into the red-hot mass, and draws it out on to the work plate; some L. separates out and flows down the gutter into the L. pot. The residue is returned to the furnace. These operations take place about every five minutes.

L. produced by these processes is nearly always hard, and has to be softened. This is quite a simple process, as the impurities which render the L. so hard will all oxide off, if the L. be kept heated for several hours or days as the case may be. Any amount of L. can be treated at once, the oxides rising to the top, and being
tion
L.
rolle
is first cast into cakes about 5 ft. square. L. piping is common because L., when hot, flows easily under pressure. Such pipes are usually forced out by strong hydraulic pressure, the

L. being squeezed [illegible] and the die. Shot is [illegible] molten L. into a [illegible] containing cinders: [illegible] way through the perforations, and if allowed to fall through about 150 ft. the drops become spherical. Those which are not true are separated by rolling down an inclined plane having a gap in it. The true ones will gather enough impetus to jump it, but the oblate ones fall through and are remade. Litharge is made by oxidation of the L. after it has been desilverised in the cupel. Red L. is made by the oxidation of litharge. Orange L. is made by heating up white L. carbonate in place of litharge in a colouring oven.

Lead, The, an instrument for discovering the depth of water at sea. It is a large piece of elongated lead, something the shape of an old-fashioned clock-weight, attached to a line, called the 'lead-line' generally about 20 fathoms long. It weighs from 7 to 11 lbs. There is a cavity at the lower end, filled with tallow to ascertain upon what sort of ground the soundings are struck. The weights for different depths of sea-sounding naturally vary. When the depth is great, the *deep-sea lead*, weigh[illegible] from 25 to 30 lbs. is used, the [illegible] being marked by knots every [illegible] fathoms. One of the regulations prescribed by the navy is that ships shall constantly keep the hand-lead going, when [illegible] pilot waters. *Sounding an* [illegible] *ford's Sailor* [illegible] Patterson's [illegible] 1894.

Leadgate, an eccles. par. and mining tn. of Durham, England, 11 m. from Newcastle. Both coal and iron are found. Pop. (1911) 4990.

Leadhills, a vil. of Lanarkshire, Scotland, 18 m. S. of Lanark. It is about 1320 ft. high, and its lead mines have been worked since the early 17th century. Some silver is also mined. Pop. (1911) 835.

Leading Question, in the law of evidence (*q.v.*), a L. Q. is one which by its form suggests to the witness the answer required by counsel for the purposes of his case. For example, if in an action of damages for personal injuries alleged [illegible] by the negligence [illegible] driver, the plaintiff's case is that the 'bus was being driven at an excessive speed, a witness for the plaintiff should be asked not 'Was the 'bus going at a furious pace?' but 'At what speed was the 'bus going?' L. Qs. are, however, put by mutual consent as to matters not contested or merely introductory, and may also be put to refute evidence *already given* by an opposing witness. L. Qs. may, however, be put without restriction in cross-examination.

Lead Plaster (*Emplastrum plumbi*), made of lead acetate, soap, and water, and is used as an external application to raw and irritated surfaces. It has practically no effect on the unbroken skin, but when applied to sores, has the effect of coagulating the albumen and so contracting the small blood-vessels. *Emplastrum plumbi iodidi* is made from lead iodide, and has much the same curative effect.

Lead Poisoning, or Plumbism, a form of poisoning due to the introduction of lead into the system. It is a 'disease of occupations' and specially affects workers in potteries where lead glaze is used, as well as painters, plumbers, glaziers, printers, and others. In such cases the disease is the result of minute doses of lead being absorbed over a long period of time. The symptoms vary with the extent of the poisoning, and also with the constitution of the individual. A common form is painter's colic, which is attended with frequent intestinal pains and obstinate constipation. The poison proceeds to produce [illegible] muscular tremors, [illegible] mong char- [illegible] line on the gums, and the presence of 'wrist-drop,' in which the hands become useless and the joints deformed. A test for lead in the system is provided by painting a small area of the skin with a 6 per cent. solution of lead sulphite; if lead be present, the area will darken in a few days. The treatment in acute cases consists of the administration of potassium iodide. The absorption of lead can, however, be avoided altogether by strict attention to cleanliness, particularly with respect to the hands and nails.

Leadville, cap. of Lake co., Colorado, U.S.A., founded in 1859 as 'California Gulch,' 76 m. S.W. of Denver. Gold, silver, and lead abound, and there are large smelting furnaces. Pop. (1910) 7508.

Leaf, in botany, is a term applied to various lateral outgrowths of the stem, *e.g.* bracts, sepals, and petals, all of which are considered under their individual headings, but in its best-known sense it is applied to those members of the plant which constitute its foliage. The foliage L. consists typically of three parts, the [illegible] -blade, *petiole* or leaf-[illegible] or leaf-base. The vagina frequently bears two lateral outgrowths known as *stipules*, *e.g.* rose; when vagina and petiole are absent, as is often the case, the L. is said to be *sessile*, *e.g.* honeysuckle.

The shape of the lamina varies very greatly, but the different forms are divided sharply into two as *compound* or *simple*, the former indicating that the lamina is split up into a number of distinct parts called leaflets, while the latter indicates that however much the blade may be indented it is not split up into leaflets. The venation of Ls. is necessarily related to their form: in the typical L. of a Monocotyledon, *e.g.* iris, the veins run parallel to one another, and the L. is long and undivided, while in a Dicotyledon the venation is always reticulate and the L. may be greatly divided, *e.g.* horse-chestnut. The same plant may bear several types of Ls., and one which grows with part of its foliage in a submerged condition will be noticed to have its aquatic Ls. very finely divided to withstand the force of the water. The functions performed by Ls. are of the greatest importance to the life of the parent plant. Most of the carbon dioxide absorbed from the atmosphere is taken in by the Ls.; respiration or the exchange of carbon dioxide for oxygen is also effected by them, as well as transpiration or the giving off of large quantities of surplus water.

League (Lat. *leuca*, a Gallic mile), a measure of length of great antiquity, estimated by the Romans at 1500 paces, or 1·376 English miles. It was introduced into England by the Normans, and was then equal to 2 old English miles, or about 3 modern miles. It is now a nautical measure, the 20th part of a degree, *i.e.* 3 geographical miles, or 3·456 statute miles. The French and other nations use the same nautical measure.

Leagues, Historical. League is a term which signifies a political alliance or coalition. The name has been given to numerous confederations, such as the Ætolian and Achæan leagues of ancient Greece; the various holy leagues, of which the most famous are those formed by Pope Julius II. against Venice in 1508 (often known as the League of Cambrai), and against France in 1511; commercial leagues, like that of the Hanse towns (*see* HANSEATIC LEAGUE); the Solemn League and Covenant between England and Scotland in 1643, for the establishment of the Presbyterian Church; the Smalkaldic League in Germany; the Catholic League in France; and the Protestant Union and Catholic League in Germany, which heralded the Thirty Years' War. After the Peace of Westphalia, while France and Spain were still at war, Mazarin helped to form the League of the Rhine, which included powerful German princes, and was aimed against the emperor. Many leagues were formed during the latter part of Louis XIV.'s reign to check the growing power of France; the most important being the League of Augsberg (1686), which was formed after Louis had seized Strassburg and German lands in the period of peace after the Treaty of Nimeguen, and the Grand Alliance (1701-2) headed by William III. of England. The most famous league of the 18th century was that of France and Spain, which were allied by a series of family compacts. The name has been adopted by various political associations, such as the Anti-Corn Law League, the Irish Land League, the Primrose League, the United Irish League, etc. *See* Dyer and Hassall's *History of Modern Europe* (3rd ed. 6 vols.), 1901; Stubbs's *Lectures on European History*, 1904; and *Cambridge Modern History*, 1903-10.

Leakage and Breakage, a term inserted in bills of lading or charter-parties, to duly protect the shipowner, viz. 'leakage and breakage excepted,' or 'not accountable for leakage and breakage.'

Leake, William Martin (1777-1860), a British officer and archæologist, born in [illegible] the rank [illegible] army, he [illegible] Morea, and other parts of Greece, surveying the coasts and fortresses and making collections which are now in the British Museum. He retired in 1823 and published several valuable works, among them being: *Researches in Greece*; *Topography of Athens*; *Travels in the Morea*; *Travel in Northern Greece*; and *Numismatica Hellenica*. See *Memoir* by Marsden, 1864.

Leamington Priors, or Royal Leamington Spa, a municipal bor. and health resort of Warwickshire, England, on R. Leam, 2¼ m. from Warwick. The mineral springs (saline, sulphurous, and chalybeate), discovered 1874, are much frequented. Cooking-ranges are extensively manufactured. Pop. (1911) 26,717. *See* Garrod, *Medicinal Springs of Leamington*, 1895.

Leap Year, also known as 'bissextile,' the name given in England to every year which has 366 days. In 46 B.C. the calendar was reformed by Julius Cæsar. The solar year was settled at 365¼ days, and under the new arrangement the February of every fourth year was to have 29 days instead of 28, the calendar thus taking a leap of one day every fourth year to balance its being six hours too short in each ordinary year. A leap year is divisible by four without a remainder, excepting in the case of

concluding years of centuries, when every fourth year only is a leap year. *See* CALENDAR.

Lear, Edward (1812-88), an English writer and artist, exhibited at Royal Academy (1850-73). He early made ornithological drawings in the Zoological Gardens, and assisted Gould as draftsman in his *Birds* (1832-36). L. produced his delightful *Book of Nonsense* (1846) for the grandchildren of his patron, the Earl of Derby, and drew the plates to *The Knowsley Menagerie* for him. Other works were *Sketches of Rome and its Environs*, 1842; *Illustrated Excursions in Italy*, 1846; *Journal in Greece and Albania*, 1851 (praised by Tennyson in his 'Lines to E. L . . .'); *In Corsica*, 1870; *More Nonsense Rhymes*, 1871; *Laughable Lyrics*, 1876. *See* Lushington's 'Memoir' prefixed to *Poems . . .* 1889; *Letters*, ed. by Stachey, 1907.

Leather (a word common to all Teutonic languages; Ger. *heder*, Dutch *leer* or *leder*, Swedish *läder*, etc.; *cf.* Welsh *lladen*), the name given to the imputrescible substance which is prepared from the skins of various animals by means of different processes. The skins of Mammalia consist broadly of two layers—the upper, containing colouring matter and the roots of the hair, being cellular in structure, the thicker under layer being of fibrous structure. The upper layer is known as the epidermis, the under as the corium. The former is valueless from the tanner's point of view, and as it is decomposed much more easily than the latter by the action of alkalies, it is removed; the latter is soluble in water after protracted boiling, and yields a solution which gelatinises upon cooling. Moist skin putrefies on exposure to the air, and dried skin becomes hard and brittle. Before L. can be produced the skin must be cleansed thoroughly, and all the hair, together with the epidermis, removed. The skins used by the tanner are principally those of cattle, but those of horses, asses, pigs, goats, kids, and deer are also used. The quality of the hide varies in different animals, and also in the same animal, according to its age. After the skins have been washed, they are steeped in water for some days until they are soft enough for the flesh and muscle still adhering to be scraped off by means of a blunt knife; they are also hammered by hand or machinery. The hides are next placed in pits, which are filled with a milk of caustic lime. The cells of the epidermis are thus dissolved and the hair loosened, and the fibres swollen and fibrils. This of time varying from one to three weeks, according to the nature of the skin, and the longer it is carried on the softer is the L. Ox and cow hides for 'sole' L. are sometimes 'sweated' instead of being exposed to the action of lime; they are hung in a warm moist atmosphere until putrefaction is begun, when the hair is removed. The fibres are not swollen by this method, and the resultant L. is of a very firm nature. Sheep skins are often 'sweated,' so that the wool may be removed without injury, and afterwards 'limed.' As substitute or assistants to lime alkaline sulphides are sometimes used. After the skins have been limed they are again subjected to the action of the dressing-knife; the loosened hair, etc., is removed with a blunt knife, and the flesh, tissues, etc., still adhering are cut off with a sharper instrument. All hides go through the above process, with modifications of detail, but those required for softer Ls. are now treated in a different manner from the thick sole Ls. The latter are merely washed with water or a very dilute acid liquid in order to remove as much of the lime as possible. The hides for softer Ls., however, require to be brought into a softer condition, and all trace of lime removed. Fermenting infusions of excrement are often used for this purpose; that of fowls for heavier, of dogs for finer Ls. The substance 'erodin,' which is composed of gelatinous matter chemically treated, is, when inoculated with a culture of suitable bacteria, used instead of the above infusions, and has the advantage of not injuring the skins. The prepared hides may now be tanned by the action of different materials. There are three main processes named according to the material used. 'Tanning' is the name given to the process when *tannin* is the substance employed; 'tawing' is the name when metallic salts are used, 'chamoising,' or 'shamoying,' when oils and fats are the agents.

Tanning.—Tannin is obtained from

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materials, but other products are largely used, including valonia (the acorn cup of the Levantine *Quercus ægilops*), oak wood, and chestnut extracts; sumach, cutch, gambier, and myrobalans, etc. Thick and heavy hides are tanned 'in the bark,' thinner hides 'in liquor.' In the former process the bottom of a wood-lined pit is covered with spent bark, and successive layers of hides and bark are [illegible] a top layer of spent bark [illegible], and the pit filled with water.

This process is repeated in different tanks, and at the end the hides have gained about 10 per cent. in weight. In the 'liquor' process the hides are placed in successive solutions of tannin, each of which is stronger than the last; thinner hides require six to eight weeks, thicker hides twelve to fourteen weeks. The time taken by the 'bark' processes was formerly as long as two years, but from three to six months is now a more usual time. The heavier Ls. are partially dried when tanned, then stretched, 'struck,' and rolled, generally by machinery; it is then completely dried at a moderate temperature.

Tawing.—When the skins have been prepared as described, they are separately soaked in a tepid bath containing alum and common salt dissolved in water; they are then placed in heaps for a few days, when they are wrung out and dried by exposure to the air. The mutual action of the salt and alum produces aluminium chloride, which the skins absorb. When the skins are thus *tawed* and dried, they are softened by being damped and stretched between a curved iron and a movable steel plate, after which they are finally dried. A strong L. may be produced in a comparatively short time by steeping the hides in a very strong solution of alum and salt, drying them, and then rubbing them with tallow before a charcoal fire. The more delicate kinds of L. are tawed by immersion in a bath containing, besides salt and alum, yolk of eggs, and wheaten flour. They are then stretched, dried, softened, and finally polished by rubbing with a glass disc.

Chamoising.—'Wash leather,' or chamois L., is prepared from the skins of deer, sheep, calves, etc., by tawing them with oil. The skins are prepared in the usual way and are then repeatedly rubbed with animal oil; the oil employed is usually a fish oil, to which a little carbolic acid is sometimes added. The oil is sprinkled on the skins and rubbed in by hand, after which they are placed in the fulling machine and exposed for some time to the action of the beaters. This process is repeated until there is no longer any fleshy odour from the skin. A process of gentle fermentation is then originated in the skins by exposure to a warm atmosphere; the pores are thus opened and the oil thoroughly penetrates the skin. Washing with a dilute warm caustic ley removes any excess of oil, and the skins are then dried and dressed.

Currying is the finishing process applied to L. when it comes from the tanner, especially to L. for shoes, saddlery, and harness. The first operation in dressing L. for shoes is soaking it until thoroughly wet; the flat side of the L. is then shaved to the required form on a beam about 7 or 8 in. broad. The knife used for this purpose is of a rectangular form with a handle at each end and a double edge. After being shaved the L. is 'scoured,' that is, rubbed on the grain or hair side with a piece of pumice or similar stone. These stones expel the 'bloom,' a white substance produced by the oak-bark in tanning, from the L. A greasy substance called 'stuffing,' or 'dubbing,' is then applied either by hand, or in a rotating drum, which is heated to melt the grease, after which the L. is dried. It is then softened by the application of a 'graining-board,' an instrument with teeth on the under side, to the flesh side ('graining'), and to the grain side ('bruising'). 'Whitening,' or 'paring,' is the next operation, consisting of the removal of the grease by a sharp-edged knife, after which the graining board is again applied. 'Waxing,' or 'colouring,' is effected by rubbing with a brush dipped in a composition of oil and lamp-black on the flesh side; the L. is then sized, the surface smoothed by pressure, and a second sizing given. Waxing on the grain side differs but little from waxing on the flesh side. For patent and enamelled Ls. many successive coats of a varnish composed of Prussian blue boiled with linseed oil are applied. 'Morocco' L. is made from goat skins, which are generally tanned by the action of sumach, glazed by a solution of blood and milk, and polished. 'Kid' L. rather implies that a certain mode of dressing has been employed than that the skin used is from the kid, as other skins are used. Chrome Ls. are tanned by the action of salts of chromium instead of those of alumina. *See* Procter, *Principles of Leather Manufacture*, 1903; Davis, *Manufacture of Leather*, 1897; A. M. Villon, *Leather Industry*, 1901; A. Watt, *Leather Manufacture*, 1906, etc.

Leather-cloth, American, a textile material, so called because it has a flexible surface somewhat resembling leather. This surface is variously obtained. Sometimes the backing fabric —usually unbleached calico, or linen if greater durability is required—is treated with an insoluble coating of gelatine mixed with glycerine, and sometimes a mixture of boiled oil, driers, and dark dye-stuffs is rolled on to the cloth. It is used for furniture and carriage upholstery, for writing tables, and for covers of various description.

Leatherhead, a par. and tn. of Surrey, England, 3 m. from Epsom,

on the Mole. There are brick works, tanneries, and breweries. Pop. (1911) 5491.

Leathes, Stanley (1830-1900), an English divine and Orientalist, born at Ellesborough, Bucks. He took holy orders (1856), became professor of Hebrew at King's College, London (1863), Boyle lecturer (1868-70), Hulsean lecturer at Cambridge (1873), Bampton lecturer at Oxford (1874), and Warburtonian lecturer at Lincoln's Inn (1876-80). In 1876 L. was elected prebendary of St. Paul's, rector of Cliffe-at-Hoo (1880-89), and of Much Hadham, Herts. (1889-1900). He published many sermons and *Studies in Genesis*, 1880; *Christ and the Bible*, 1885, etc.

Leave, Military, *see* OFFICER.

Leaven (through Fr. *levain;* from Lat. *levamen*, solace, *levare*, to lift up), a substance which produces fermentation; also an underlying element or influence which produces a subtle change over anything. To the Hebrew the word suggested corruption, hence leavened bread was not permitted in sacrifices. At the Feast of the Passover or of Massôth unleavened bread was eaten. In the N.T. the Kingdom of Heaven is compared to L. (Matt. xiii. 33), signifying a good influence. The idea of corruption is suggested in the reference to the L. of the Pharisees in Matt. xvi. 6.

Leavenworth, the cap. of Leavenworth co., E. Kansas, U.S.A., on the R. Missouri, 25 m. N.W. of Kansas city. Fort Leavenworth to the N. has a military prison and strong garrison. Coal is mined, and machinery, engines, bricks, furniture, flour, woollens, and vehicles are manufactured. Pop. (1910) 19,363.

Lebanon: 1. The cap. of Lebanon co. in S.E. Pennsylvania, U.S.A., 25 m. from Harrisburg; produces iron, copper, marble, coal. Manufs. include machinery, stoves, chains. Pop. (1910) 19,240. 2. Cap. of Grafton co., New Hampshire, 50 m. N.W. of Concord. Machinery, woollens, and farm implements are manufactured. Pop. (1910) 5718. 3. Cap. of Boone co., Indiana, 25 m. N.W. of Indianapolis. Manufs. washing machines, flour, etc. Pop. (1910) 5474.

Lebanon, Mount (*Libanus*, the White Mountain), a mountain chain of Syria and Palestine, parallel with the Mediterranean coast with spurs projecting to the sea, the Jebel-Libuan or Jebel-el-Gharbi of the Arabs. It stretches from the Nahr-el-Kebir, near Tripoli, and Homs to the Litany (ancient *Leontes*), near Tyre, and the range is continued by the hills of Palestine, the biblical mountains of Naphtali, Ephraim, and Judea. To the E. is the Anti-Libanus range (Jebel-esh-Sharki), with El-Buka'a (ancient *Cœle-Syria*), a narrow, fertile valley between. The average height of Lebanon is 7000 ft., its chief peaks, Dahr-el-Kodib and Jebel-Makmal, being about 10,000 ft. The formation is limestone, sandstone, and basalt. Only a few groves of the once noted cedars now remain. Sheep and goats are reared, and much silk is produced from the silk-worms of the mulberry plantations. Iron, coal, asphalt, and amber are found. The inhabitants are mostly Christians (Maronites and Greek Catholics), but a few Druses remain in the S. Since 1861, a Christian governor, under protection of the European powers, has been appointed. His seat is at Beited-din in summer, at Baabda in winter. Pop. 260,000 to 400,000. *See* Fraas, *Drei Monate im Lebanon*, 1876; Porter, *Handbook for Travellers in Syria and Palestine*, 1875.

Lebedin, a tn. of Kharkov gov., S. Russia, 90 m. W.N.W. of Kharkov, trading in tallow, sugar, and grain. It figured in Peter the Great's campaign against Mazeppa and Charles XII. (1709). Pop. 14,200.

Lebedyan, a tn. of Tambov gov., Central Russia, 110 m. W. by N. of Tambov. There is trade in cereals, fur, leather, live stock. Pop. 14,000.

Lebœuf, Edmond (1809-88), a marshal of France, born in Paris. He entered the army in 1832, and after services in Algeria was made colonel. He directed the French siege operations around Sebastopol in the Crimean War and was made brigadier-general. He rose to be commander-in-chief of the artillery and served with distinction at the battle of Solferino. In 1869 he became Minister of War and the following year marshal. Before the Franco-German War he believed France to be in perfect readiness, so that he was largely blamed for the disasters of his country. After resigning he fought bravely at Noisseville and Gravelotte, and was taken prisoner at Metz.

Le Bossu, René (1631-80), a French writer, born in Paris. He joined the canons-regular of Saint Geneviève in 1649, and taught the humanities in various schools. His *Treatise on Epic Poetry* (1675) won for him a European reputation. It was translated into English by 'W. J.' in 1695, and there was a later version in 1719. *See* Memoir by Le Courayer, prefixed to the 6th ed. of the *Poème Epique*.

Lebrija (ancient *Nebrissa*), a tn. of Seville prov., Spain, 16 m. from Jerez. There is a ruined castle. It trades in cattle, grain, wine, and oil. Pop. 11,000.

Le Brun, Charles (1619–90), a French historical painter, pupil of

Vouët. He designed many of the decorations at Versailles (1679). In 1648 he helped found the Academy, established the French school at Rome, and became director of the Gobelins manufactory (1660). His works include: 'Massacre of the Innocents,' five pictures illustrating the history of Alexander (1661-68, in the Louvre), 'The Family of Darius,' 'The Repentant Magdalen.' *See* Lives by Genevay (1885), Jouin (1890); Blanc, *Hist. des Peintres*, 1849-75; Bayle, *Hist. and Crit. Dict.*, 1696.

Le Brun, Marie Louise Elisabeth (*née* Vigée) (1755-1812), a French portrait painter. She painted her first portrait of Marie Antoinette (1779), and was admitted to the Academy (1783) with 'Peace Bringing back Plenty.' She travelled much in Europe. Her portraits include: Lady Hamilton, Mme. de Staël, herself and her daughter, J. Vernet, Lord Byron, the Prince of Wales, Marie Antoinette and her three children. She published her *Souvenirs* about 1835. See *For. Quart. Rev.*, Oct. 1837.

Lebrun, Ponce Denis Ecouchard (1729-1807), a French poet, born in Paris, and educated at the Collège Mazarin. He became secretary to the Prince de Conti and frequented the gay, literary society of the time, writing letters and composing witty epigrams and beautiful odes, which won for him the name of the French Pindar.

Le Caron, Henri (1841-94), the adopted name of Thomas Miller Beach, British secret service agent, born at Colchester. He served with the Northern Army in the American Civil War (1861-64), and afterwards, having given information to the British government concerning the Fenian plot against Canada, he was employed as a military spy. T. Parnell Commission of 1889, when was brought forward as a witness, put an end to his exciting career. *See* his *Twenty-five Years in the Secret Service*, 1892.

Lecce (ancient *Lupiæ*), a tn. and archiepiscopal see of Apulia, cap. of the prov. of Lecce, Southern Italy, 24 m. S.E. by rail of Brindisi. The church of SS. Nicola e Cataldo was built by Tancred in the 12th century. There is also the cathedral of S. Oronzo, and the Prefettura, with its valuable collection of Greek pottery. L. has extensive trade in oil, wine, tobacco, woollens, etc. Pop. 33,610. The province has an area of 2623 sq. m. and a pop. of 769,043.

Lecco, a tn. in the prov. of Como, Italy, 15 m. E. by N. of Como, standing on an arm of the lake. The town manufs. iron and silk goods. Pop. 10,500.

Lech, one of the tribs. of the R. Danube, about 170 m. long. It rises in Vorarlberg and flows through Bavaria in a northerly direction, joining the Danube near Donauwörth.

Lechler, Gotthard Victor (1811-88), a German Lutheran theologian, born at Klöster-Reichenbach in Würtemberg. He is the historian of early Christianity and of the pre-Reformation period. His chief work is *Johann von Wiclif und die Vorgeschichte der Reformation*. His other

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verfassung, etc.

Lecky, William Edward Hartpole (1838-1903), an English historian and [illegible]. He

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[illegible] 1865;
[illegible] *Morals*
[illegible] 1869;

and after about ten years' study and investigation, *The History of England in the Eighteenth Century*, 1878-90. The first three were translated into German, the *History of Morals* being used as a text-book in German universities. He was M.P. for Dublin University in 1895 and 1900. Later works include: *Poems; The Political Value of History; Democracy and Liberty;* and *The French Revolution*.

Le Clerc, Jean (1657-1736), a Swiss theologian, born at Geneva, and after completing his studies became a professor at the Remonstrant seminary at Amsterdam, 1684. Among his numerous works are: *Bibliothèque Universelle et Historique*, 1686-93; *Bibl[illegible]e Choisie*, 1703-13; *Biblio[illegible]l Moderne*, 1714-26; [illegible] 30.

Lecluse, *see* CLUSIA.

Lecocq, Alexandre Charles (*b.* 1832), a French musical composer, born at Paris. His first operetta appeared in 1857, *Le Docteur Miracle*, followed by many others, notably *Fleur de Thé*, *Les Cent Vierges*, and best known of all, *La Fille de Mme. Angot*, produced in Paris and London (1873), which was never equalled in his subsequent pieces, including *La Petite Mademoiselle*, *Le Jour et le Nuit*, *Le Cygne*, and *Yella* (Brussels), 1903.

Leconte de Lisle, Charles Marie (1818-94), a French poet, born in the island of Réunion. He settled in Paris in 1846. His first work, *La Vénus de Milo* (1848), gained him many friends, especially amongst the devotees of classical literature, and he produced his *Poèmes Antiques*, which contain some of his best work, in

852. These were followed by *Poèmes et Poésies*, 1854; *Le Chemin de la Croix*, 1859; *Poèmes Barbares*, 1862; *Les Érinnyes*, a tragedy after the Greek model, 1872; *Poèmes Tragiques*, 1884; and *L'Apollonide*, 1888. Besides this, he translated Theocritus, Anacreon, the *Iliad* and *Odyssey*, Hesiod, Æschylus, Horace, Sophocles, and Euripides. *Derniers Poèmes* appeared posthumously, 1899. His poems had a great influence on the young poets of his time, and are marked by classic regularity and faultlessness of form. He was made assistant librarian at the Luxembourg in 1873, and succeeded to Victor Hugo's chair at the Academy in 1886.

Lecouvreur, Adrienne (1692-1730), an actress, born near Châlons. After making her début in 1717, she was received into the Comédie Française, where she attained an extraordinary popularity. She was extremely fascinating, but her success was largely due to the naturalness of her delivery and her simple pathos. Her death was supposed to have been due to poison administered by a rival, the Duchess Bouillon. Scribe and Legouvé's play, *Adrienne Lecouvreur* (1849), gives an account of her life.

Le Creusot, *see* CREUSOT.

Lectern (Fr. *lutrin*, Ital. *leggio*, Ger. *lesepult*), a reading-desk, in the Anglican Church, practically confined to the reading of lessons. It came into use in the 15th century, and was made either of wood or metal, the commonest type being in the form of an eagle with outspread wings, on which the book rested, raised on a moulded stem and carrying three projecting ledges with lions on them.

Lectionary, a book containing portions of scripture to be read during the course of the year in the public service of the church. The custom of reading the books of Moses in the synagogues on the Sabbath day was an ancient one, the addition of lections (readings) being of later date. In the Anglican Church the form of L. was fixed in 1661, and revised in 1867. In 1879 a new table of lessons was drawn up and became obligatory.

Lectures (Lat. *lectura*, from *legere*, to read; compare Fr. *lecture*), discourses or addresses of a formal nature, given from an educational point of view, to distribute information on a variety of subjects. Lectureships have been endowed at most universities, with a view to spreading the particular opinions of the founder, and nowadays they are attached to practically every branch of learning, though formerly they were of a theological or religious kind only. Of the latter variety are the Bampton, delivered at Oxford, the Hulsean at Cambridge, the Boyle at London, the Hibbert (in comparative religion) at Oxford and London, the Donnellian at Dublin, and the Gifford and Burnett L. in connection with the Scottish universities. Of more recent date are the 'University Extension' L., inaugurated in 1885 at Oxford, mainly owing to Max Müller. Cambridge also has a University Extension scheme, with centres at Derby, Exeter, Hull, Newcastle, and other important towns, and the London University has a similar scheme. See *The New Review*, vol. iii., for article on this subject by Prof. Max Müller.

Leda, in Greek myth, a daughter of Thestius and Eurythemis, and wife of Tyndareus, King of Sparta. Zeus visited L. in the form of a swan, and by him she became the mother of Castor and Pollux. The story is recounted by Homer, Hesiod, Ovid, Euripides, and other of the ancient writers.

Ledbury, a tn. in Herefordshire, England, at the S. extremity of the Malvern Hills. Fine cider orchards and hop grounds are in its immediate neighbourhood. Pop. (1911) 3358.

Lede, a tn. in the prov. of E. Flanders, Belgium, 4 m. N.W. of Alost, with manufs. of lace and woollens. Pop. 5600.

Ledoc[illegible] Count [illegible]rdinal ecclesiastic, [illegible]. He was educated at Warsaw, finishing at Rome, where he was ordained in 1845. In 1861 he was nuncio to Pope Pius IX., in 1865 became Archbishop of Gnesen-Posen, and in 1876 was made a cardinal. He championed the cause of his religion against the government, and suffered imprisonment in 1873 during the Prussian and German *Kulturkampf*, on refusing to lay aside his office. Being released in 1876, he went to Cracow, but on being expelled from Austria went to Rome, finally resigning his archbishopric in 1885. In 1892 he was made prefect of the Propaganda.

Ledru-Rollin, Alexandre Auguste (1807-74), a French politician, born at Fontenay. He was admitted to the bar in 1830, and became conspicuous as a defender of republicans, and afterwards as a democratic agitator. In 1846 he published *Appel aux Travailleurs*, in which he advocated 'universal suffrage,' and on the outbreak of the revolution in 1848 was a member of the Provisional government, aiming at the presidency against Louis Napoleon later in the year. On his defeat he came to London, where he joined 'Le Comité de la République Universelle,' re-

turning to France after an exile of twenty years. He wrote *De la Décadence de l'Angleterre*, besides many contributions to French jurisprudence. His *Discours Politiques et Écrits Divers* appeared in 1879.

Leduc, *see* VIOLLET-LE-DUC, EUGÈNE EMMANUEL.

Ledyard, John (1751-88), an American traveller, born at Groton, Connecticut. In 1776 he accompanied Captain Cook on his last voyage. On his return published a journal of the voyage with an account of Captain Cook's death. In 1786 set out on an expedition to the Arctic regions, arriving at Irkutsk after a journey of great hardships, where he was arrested as a spy and forbidden to re-enter Russia. Returned to London and almost immediately started on another expedition to the interior of Africa, but fell ill at Cairo where he died. *See* 'Life' by Sparks in his *American Biography*, xxiv.

Lee, a suburb of London in the Greenwich div. It contains the Merchant Taylors' almshouses.

Lee, a riv., co. Cork, Ireland, which flows into Cork Harbour. Length 45 m.

Lee, a term which implies shelter or protection. It is chiefly used in nautical expressions, *e.g.* leeshore, leeway.

Lee, Fitzhugh (1835–1905), an American general, born at Clermont, Virginia. He served throughout the Virginian campaigns of 1862 and 1863, becoming major-general the same year, and led the last charge of the Confederates at Farmville in 1865. He was governor of Virginia, 1886-90; consul-general at Havana, 1896; and military governor of Havana and Pinar del Rio, 1899. He wrote: *Robert E. Lee*, 1894; and *Cuba's Struggle Against Spain*, 1899.

Lee, Frederick Richard (1799-1879), a landscape painter, born at Barnstaple. He became a student of the Royal Academy in 1818, and first exhibited in 1824. He was elected an academician in 1838. His works were chiefly of English scenery, the cattle in many of them being painted by Sidney Cooper. Some of his pictures are: 'The Cover Side' (dog, etc., by Landseer), 'Showery Weather,' 'Evening in the Meadows,' 'A River Scene,' (all of which are in the National Gallery), 'Near Redleaf,' 'Gathering Seaweed,' 'Distant View of Windsor' (S. Kensington).

Lee, James Paris (1831-1904), a Scottish gun inventor; emigrated with his parents to Galt, Ontario, Canada (1836). He was joint-inventor of the Lee-Metford and Lee-Enfield rifles (*see* RIFLE), adopted in turn by the English War Office about 1888.

Lee, Nathaniel (*c.* 1653–92), an English writer of drama. He produced his first play, *Nero, Emperor of Rome*, in 1675. *Sophronisba* and *Gloriana* were published in 1676, but he made his reputation by *The Rival Queens*, a blank verse tragedy in 1677. Many others followed, his last being *Constantine the Great*, 1684. L. also collaborated with Dryden in *Œdipus*, 1679; and *The Duke of Guise*, 1682.

Lee, Robert, D.D. (1804-68), a professor at Edinburgh, born at Tweedmouth, Northumberland. He was educated at St. Andrews University, and was minister of the old Greyfriars Church, Edinburgh (1843-68). He was made D.D. of St. Andrews in 1844. He tried to extend freedom of worship and thought within the Church of Scotland, and in order to improve the form of public worship, introduced stained-glass windows in 1857, and an organ in 1864. He pub-

f the Church in and Doctrine, ıy other theo-

logical works, and books of prayers.

Lee, Robert Edward (1807-70), a famous American general, born at Stratford, Virginia. He took part in the Mexican War, distinguishing himself at the siege of Vera Cruz and in the storming of Chapultepec, and in 1852 was appointed superintendent of West Point, where he carried out great improvements at the Military Academy. From 1855-59 he served on the Texan border, and in 1859, the time of the John Brown raid on Harper's Ferry, commanded the U.S. troops. In 1861 he was made colonel of the 1st U.S. Calvalry, but resigned his commission on the secession of Virginia the same year, and was immediately made commander-in-chief of the Virginian forces. From this time L. is an integral part of the Civil War, he superintended the defences of Richmond (1861) and of the Atlantic coast (1862), and after General Johnston was disabled in 1863, was put in command of the army round Richmond, where he distinguished himself in the 'Seven Days' Battle,' defeating McClellan's Peninsular campaign. He also opposed General Pope's movements and invaded Maryland and Pennsylvania, but was forced to surrender to General Grant at Appomattox Court House, Virginia (1865), after which the confederacy was at an end. L. ranks among the great generals of history, and was much respected by his adversary, General Grant, indeed, his surpassing ability has been recognised by all nations. He was offered and he accepted the presidency of Washington College (now Washington and Lee

University), at Lexington, Virginia, after the close of the war, and held this post till his death.

Lee, Samuel (1783-1852), a celebrated linguist, a native of Shropshire. In his early years he taught himself many Eastern languages, and in 1813 went to Queens' College, Cambridge, becoming professor of Arabic (1819-31), and regius professor of Hebrew (1831-48). His chief works were his editions of the N.T. in Syriac (1816), and of the O.T. (1823), and a translation of the Book of Job from the original Hebrew (1837).

Lee, Sir Sidney (*b.* 1859), the editor of the *Dictionary of National Biography* since 1891, born in London. He was educated at the City of London School and Balliol College, Oxford, and became assistant editor of the *Dictionary of National Biography* in 1883, being joint editor with Sir Leslie Stephen (1890-91). He has contributed numerous articles, and wrote the Memoir of Edward VII. (1912). Other works of his are: *Stratford-on-Avon from the Earliest Times to the Death of Shakespeare*, 1885 (new ed. 1906); *A Life of William Shakespeare*, 1898 (illus. ed., 1899; popular ed., 1900, 1907); *A Life of Queen Victoria*, 1902 (new ed., 1904); *Elizabethan Sonnets*, 1904; *Great Englishmen of the 16th Century*, 1904; *Shakespeare's and the Modern Stage*, 1906; *The French Renaissance in England*, 1910; *Principles of Biography* (Leslie Stephen's lecture at Cambridge), 1911.

[illegible]

cated at Cambridge. He was in the ministry at Calverton, subsequently removing to London. His invention was discouraged both by Elizabeth and by James I., so he established himself at Rouen, under the protection of Henry IV. of France. After L.'s death his workmen laid the foundation of the manufacture in this country.

Leech, John (1817-64), a humorous artist, was educated at Charterhouse, London. In 1835 he began to exercise his gift of caricature, and in that year published *Etchings and Sketches by A. Pen*. In 1837 he illustrated Theodore Hook's *Jack Brag*, and three years later with Leigh produced a *Comic Latin Grammar*, and a *Comic English Grammar*. In 1841 *Punch* was founded and L. became

[illegible]

any means exhaust his activities on there is to his [illegible] books which he [illegible]

ing Dickens's *Christmas Stories*; à Beckett's *Comic History of England*, and the *Bon Gaultier Ballads*. More refined than Cruikshank, he was scarcely second to that great master, except in the range of his subjects. The standard biography is by W. P. Frith (1891).

Leechee, *see* LITCHI.

Leeches. Leech is the common name of any species of the Hirudinea, a class of elongated, worm-like animals belonging to the group Annelida. They can be distinguished by their sucking-discs which are situated at each end of the body if there are two, and at the posterior extremity, if only one is present. They occur in all parts of the world, and generally live in water, frequenting streams, ponds, marshes, and the sea, but land-leeches are also found, e.g. in Ceylon. Among aquatic

Horse-le[illegible] [illegible]er ponds and other L. has [illegible]unted form.

The medicinal L. is known by its minutely-ringed body, and by the presence of an anterior and posterior sucker. Its mouth in the anterior sucker contains three teeth which are minutely serrated so that each tooth looks like a saw. It is these teeth which make the L. so useful in bloodletting, for with these it makes a wound in the skin, having first fixed itself by the anterior sucker, and sucks the blood into its own body. L. are usually of a dark olive colour, with patches or spots on a paler ground, but bright green specimens also occur.

Leeds, a city, parl. and co. bor. in the W. Riding of Yorkshire, on the R. Aire, 25 m. W.S.W. of York, and an important railway centre. It is the seat of the woollen industry, and has been noted for this manufacture for centuries. It has communication with Liverpool by the Leeds and Liverpool Canal, and with Goole and the Humber by the Aire and Calder Navigation. Besides this, the town is the centre of an important coal and iron district. There are large flax-mills, canvas and rope works, manufs. of thread, linen, glass, and earthenware, as well as of boots and shoes, the latter being carried on extensively. The iron trade, too, is a great source of wealth, and includes the casting of metal, and the manufacture of steam engines, machinery, tools, etc. The town has many interesting buildings, including the university, incorporated 1904, origin[illegible] [illegible]. returns five [illegible]. and is the [illegible]nd the fifth [illegible]de a city in

1893, and a county borough in 1899. Pop. (1911) 445,568.

Leeds, a vil. in the Megantic co., Quebec, Canada, 38 m. S. of Quebec. Pop. 1500.

Leeds, Francis Osborne, fifth Duke of Leeds (1751-99), known before he succeeded to the dukedom as Lord Carmarthen, entered the House of Commons in 1774, but two years later was called to the House of Lords as Baron Osborne of Kiveton He was appointed in 1777 Lord Chamberlain to the queen, but, owing to his differences with the ministry, resigned that position in 1780. When, two years later, Rockingham formed a government Carmarthen was given the Paris embassy, but owing to the death of the premier he did not take up the post. He was Foreign Secretary in Pitt's administration (1783), and while still in office succeeded in 1789 to the dukedom. He was an amiable man, and a favourite in society, but as a secretary of state he was little more than a figure-head.

Leek, a market tn. in Staffordshire, 8¼ m. from Burslem. The town is specially noted for its sewing thread and silk dye-works, and manufs. silks and ribbons. Pop. (1911) 16,665.

Leek, a plant which is generally considered a cultivated variety of *Allium ampeloprasum*. It is a biennial plant, and is largely grown for food, the whole plant, with the exception of the fibrous root, being utilised. [illegible] very fine l[illegible] of the Welsh, who wear it on St. David's Day; but some authorities maintain that the L. has been confused with the daffodil, which in Welsh is *Cenin Pedr*, St. Peter's Leek.

Leer, a tn. and riv. port in the Prussian prov. of Hanover. It has many manufs. and much shipping, the principal exports being cattle, horses, cheese, butter, honey, flour, paper, and hardware. Pop. 12,677.

Leerdam, a tn. in the Netherlands in the prov. of S. Holland, 13 m. S. of Utrecht. Pop. 6717.

Lees, an urban dist., tn., and par. of Lancashire, about 1½ m. S.E. of Oldham, of which it is a suburb. Pop. (1911) 3650.

Lees, Sir James Cameron, more usually styled The Very Rev. James Cameron Lees, K.C.V.O. (1834-1913), a Scottish divine. He was minister of Carnoch, Ross, 1856-59, of the Abbey of Paisley, 1859-77, and of St. Giles' Cathedral, Edinburgh, 1877-1909. He was also chaplain to Queen Victoria, 1881-1901. His publications [illegible] *History of the Abbey of Paisley*, *History of St. Giles, Edinburgh*, *Tobersnorcy*, 1878; *Stronbuy* [illegible] *Life and Conduct*, 1893; *A H*[illegible] *the County of Inverness*, 1897. He was Chaplain-in-Ordinary to King Edward VII., and made a Dean of the Order of the Thistle, and of the Chapel Royal of Scotland, 1887.

Leet, a term used, chiefly in Scotland, for a list of persons designated as eligible for some office, and occurs in such phrases as 'to be in leet,' 'to put on the leet,' etc. 'Short leet,' a select list of a prescribed number of candidates, which is to be submitted to the elective body or the appointing authority.

Leeuwarden, a tn. of the Netherlands, and cap. of Friesland, 70 m. N. E. of Amsterdam. The tn. is intersected by numerous canals, but well built. Has an extensive trade in grain, produce, and cattle, and has important manufs. of gold and silver ware, musical instruments, cloth, etc. Pop. 36,552.

Leeuwenhoek, Anthony van (1632-1723), a Dutch microscopist, born at Delft. He made many important discoveries in the anatomy of man and the higher animals and insects. Most of his discoveries were published in the *Philosophical Transactions* of the Royal Society, of which body he became a fellow in 1680, and in the *Mémoire* of the Paris Academy of Sciences, of which he became a member in 1697. Two collections of his works, one in Dutch and one in Latin, appeared in his lifetime, and a selection from them has been translated into English by S. Hoole, 1798-1801.

Leeuwin, Cape, the S.W. point of Australia, notable for the stormy weather generally met with there.

Leeward Islands, the name given to the group of the Lesser Antilles which skirts the Venezuelan coast. They consist of the Virgin Is., Antigua, Guadeloupe, St. Kitts, Montserrat, Dominica, Martinique, and their dependencies. Most of the islands belong to England, and form, under one governor, a colony divided into [illegible] (with [illegible] t Kitts [illegible] ominica, [illegible] Virgin Is., but France possesses Guadeloupe, Martinique, St. Bartholomew, and part of St. Martin, while Holland has St. Eustatius, Saba, and the other part of St. Martin, and Denmark has a share in the Virgin Isles. The chief productions are sugar, salt, phosphate of alumina (obtained from the rich deposits in the islet of Redonda), lime-juice, which is exported from [illegible] molasses, cacao, [illegible] t being from Antigua, with [illegible] is the capital [illegible] ommander-in-

chief of the British colony. The total area of the British Leeward Is. is 701 sq.m., and the pop about 128,000.

Le Fanu, Joseph Sheridan (1814-73), a novelist, began writing at an early age, and in 1837 wrote the famous Irish ballad, *Shamus O'Brien*. He was long engaged in journalism, but he published two novels, *The Cock and Anchor* (1845), and *Torlogh O'Brien* (1847), but neither attracted any particular attention. It was in 1863, with *The House by the Churchyard*, that he first secured public favour, and he followed up [illegible] with *Uncle Silas* (1864), an *Hand* (1864), both pop several other works of fic popularity has now waned, and he is little read except in Ireland. A surviving member of the family, *Brinsley Le Fanu* (*b.* 1854), is well known as an illustrator of books.

Lefebvre, François Joseph, Duc de Danzig (1755-1820), Marshal of France, born at Ruffach in Alsace. He fought at Fleurus in the revolutionary wars, and on his return to France assisted Napoleon in the *coup-d'état* of 1799, becoming a marshal of the empire in 1804. Commanded the Imperial Guard in Russia, 1812, and fought through the last campaign of the empire. After Napoleon's abdication he was made a peer. *See* Wirth's *Le Maréchal Lefebvre*, 1904.

Lefebvre, Jules Joseph (*b.* 1836), a French painter, born at Tournan. Pupil of Leon Cogniet, he won the Prix de Rome in 1861 with the 'Death of Priam.' His best-known picture is the allegory of 'Truth,' now in the Luxembourg, representing a nude woman holding aloft a mirror. His other works include: 'Reclining Woman'; 'Slave Carrying Fruit'; 'Chloe'; 'Pandora'; 'Psyche'; 'Lady Godiva'; 'A Daughter of Eve,' etc. L. rivals Henner in painting beautiful women.

Lefevre, George John Shaw, *see* EVERSLEY, Rt. Hon. G. J. S.-L.

Leffler, Anna Carlotta, *see* EDGREN.

Lefkosia, *see* NICOSIA.

Lefort, François (1656-99), a Russian general and statesman, born and educated at Geneva. Entered the Russian service, and fought several campaigns against the Turks. Remodelled the Russian army and laid the foundations of the Russian navy. Appointed general-in-chief and admiral, 1693.

Lefroy, Mount, a peak, 11,660 ft. high, in the Rocky Mts., Alberta, Canada.

Leg. In common speech the word 'leg' is used for the whole of the hind limb; anatomically the word applies only to the *shank*, or portion between the knee and ankle. There is a great similarity in the anatomy of the hind limb in all animals. The thigh has one main bone, the *femur*, which enters into the formation of the hip-joint above, and of the knee-joint below. The L. proper contains two bones, the *tibia* and the *fibula*. The *tibia* is the larger of the two bones, and the more palpable. Its anterior border forms the shin. The upper part of the *tibia* forms, with the lower part of the *femur*, and with the *patella* or knee-cap, the knee-joint; but both the [illegible] *la* enter into the ankle-joint, the [illegible] ner and the *fibula* Below these two bones come the small bones of the tarsus and metatarsus forming the frame-work of the foot, and below the metatarsus come the phalanges of the toes. The chief difference in structure of the hind limb is due to the fact that in the course of evolution it has rotated inwards. The anterior part of the L. of a lizard is represented in man by the inner part, whereas the homologue of the posterior part, is the posterior outer, and anterior parts of a man's L. There are two factors which account for the specific points in the structure of the human L.: first and most important is the adoption by man of the erect posture, and the second, the disuse of the climbing habits of his ancestors —the apes. The main arterial supply of the L. is from the *common femoral* artery, which runs in the anterior part of the thigh; the main nerve supply is the *great sciatic* nerve, running in the posterior part of the thigh. At the knee the artery is the *popliteal* artery, a direct continuation of the *femoral* artery. The nerve supply from the knee downwards comes from the *popliteal* nerves, branches of the *great sciatic*. The artery with its vein, and the two nerves are to be found in the popliteal space at the back of the knee. The venous return is by deep and superficial channels. The superficial group of veins, which end in the *long saphenous* vein, are those which are liable to become varicosed.

Legacy (Lat. *legatum*), in English law, a bequest of personal property made by a testator in his will to be paid by his executor. Ls. may be specific, g[illegible] cumulative [illegible] a specified picture, or certain shares. Such a L. is liable to ademption, that is to say, if the picture should have been destroyed by fire or the shares sold in payment of the testator's debts no compensation is made. But if the specific L. exist, it must be paid in full in preference to all other Ls. A

general policy is a gift payable out of the assets and not particularly distinguished from the whole of the personal estate. It is liable to abatement only when there is not sufficient to pay all the general Ls. A *demonstrative* L. is primarily payable out of a specified fund, but if there is any balance to be paid, recourse must be made to the residue of the estate. A *cumulative* L. is a second or further L. to the same person. If the two Ls. are of equal amount bequeathed by the same instrument, it is assumed that the second is a mere repetition of the first; but if they are bequeathed by different instruments or are of unequal amounts, it is assumed that the second L. is in addition to the first. A L. is not payable till a year after the death of the testator. A L. to a creditor is regarded as payment of the debt, provided it is not less than the sum owing. A L. duty was first imposed in 1780, and is charged on personalty only. The husband or wife of the testator is exempt from duty. In other cases, it varies from 1 to 10 per cent. in proportion to the remoteness of relationship between testator and legatee. *See* Jarman, *On Wills* (6th ed.), 1909; and Theobald, *On Wills* (7th ed.), 1908.

Le Gallienne, Richard (*b.* 1866), an English author and journalist, born in Liverpool. Literary critic for the *Star*, 1891, he soon joined the staffs of the *Daily Chronicle* and the *Speaker*. The range and quality of his general criticism is well represented in *Retrospective Reviews* (1896). He visited the U.S.A. on a lecture tour in 1898, afterwards taking up his residence in New York. He published several volumes of poetry and verse, beginning with *My Lady's Sonnets*, 1887; *Robert Louis Stevenson and Other Poems*, 1895; and *Travels in England*, 1900; *George Meredith: some Characteristics*, 1902; *The Quest of the Golden Girl*, a novel.

Legal Tender, *see* TENDER.

Legate (Lat. *legatus*, ambassador), a title now confined to the ambassador or diplomatic representative of the pope. Ls. are of two classes, *legati nati* (legates born), and *legati missi*, or *dati* (despatched legates). The former title is now almost honorary. *Legati nati* were formerly attached to some ancient see, such as that of Canterbury, and the title still attaches to the sees of Seville, Rheims, Colorna, etc. [illegible] *latere*, [illegible] side [illegible] generally employed, and he is the plenipotentiary representative of the pope, with full papal jurisdiction within his province. (2) *Nuncii* or [illegible] hose jurisdic- [illegible] to the terms [illegible] *gati delegati*, [illegible] local clergy, to meet some temporary need.

Legato (It., tied), a musical term indicating that the passage is to be rendered smoothly, the notes being given as if tied together, the one flowing into the other without a perceptible break.

Legazpe, Miguel Lopez (*c.* 1510-72), a Spanish soldier, conqueror of the Philippines, born at Zumarraga. The first settlement of the Philippine Is. was made at San Miguel, and the city of Manila founded in 1571. L. named the islands 'Islas Filipinas,' in honour of Philip II. of Spain.

Legend (Fr. *légende*; Lat. *légenda*, from *legere*, to read), originally the term applied to a narrative of a religious kind in the early days of Christianity, and hence used for portions of scripture and lives of the saints as read in public worship. The word later came to be applied to a story, without any foundation in history, but popularly supposed to be true, handed down from one generation to another. These Ls. were at first brief and simple, but gradually developed into long and imaginative tales of a more and more exaggerated description, so that by degrees the word came to mean a narrative, professedly historical, but in reality only traditional. The famous *Golden Legend*, a mediæval collection of the lives of the saints, was composed towards the end of the 13th century by Jacobus de Voraigne. The word L. is also used in connection with coats of arms and shields, and by numismatists for inscriptions or mottoes on coins or medals. *See* Mawry, *Croyances et légendes du moyen âge*.

Legendre, Adrien Marie (1752-1833), a French mathematician, born at Toulouse. Through the influence of D'Alembert, he obtained the professorship of mathematics at the Ecole Militaire, and afterwards at the Ecole Normale. He was admitted to the Académie des Sciences for a brilliant paper on the attraction of spheroids in revolution (1783), and in 1787 was appointed on the commission to connect geodetically Greenwich and Paris. In *Nouvelles Méthodes pour la Détermination des Orbites des Comètes* (1806) he propounded his method of least squares.

Leger Lines and Spaces, in music, the short lines and spaces above or below the staff, used to express notes outside the staff.

Legge, James (1815-97), a British Chinese scholar, born at Huntly, Aberdeen. In 1839 he went as

missionary to the Chinese. Until 1842 he was stationed at Malacca, when he moved to Hong-Kong, where he remained for many years. His translation of the Chinese classics, completed a few years before his death, secured him a world-wide reputation. In 1876 he became professor of Chinese language and literature at Oxford. Among other works, L. wrote: *The Life and Teaching of Confucius*, *The Religions of China*, *Record of Buddhistic Kingdoms*.

Leghorn (It. *Livorno*), a seaport of Tuscany, the chief town of the prov. of the same name, on the W. coast of Italy, 12 m. S.W. by rail of Pisa. The most interesting of the buildings are the 17th-century cathedral, with its façade designed by Inigo Jones; the 16th-century Fortezza Vecchia overlooking the harbour, and the Torre del Marzocco. The north-west portion of the town is traversed by many canals. In the 14th century L. was under the dominion of Pisa. At the beginning of the next century it came into the hands of France, who sold it to the Genoese in 1407. It was purchased by the Florentines in 1421, from which time its prosperity dates. In 1606 the port and harbour was opened to traders of all nationalities, and it was a free port from 1691 to 1867. Fortifications have been built by [illegible], and there are numerous [illegible] and warehouses. The chief industries are the manuf. of glass, cement, electric plant, porcelain, etc. The exports include 'Leghorn' hats, olive oil, wine, timber, silk, preserved fruits, coral, etc. New harbour works were started in 1910. L. is a popular sea-bathing resort. Pop. 125,000. The prov. of L., consisting of the commune and the islands of Elba and Gorgona, has an area of 133 sq. m. and a pop. of 132,000.

Legion (Lat. *legio*), a division of the Roman army. The legionaries were regarded as the pick of the army. They were Roman citizens, and received [illegible] and higher

numbered four to six thousand men, comprising *equites*, cavalry drawn from the noble families of Rome; *triarii*, or *pilani*, veterans forming the reserve; *principes*, highly trained infantry; *velites*, skirmishers; and *hastati*, inexperienced troops. At the death of Augustus (14 A.D.) there were twenty-five legions.

Legion of Honour, an order of merit created by Napoleon in 1802 as a reward for military and civil ser[illegible]. At present it embraces five cl[illegible] Grands Croix, Grands Officiers, [illegible]mandeurs, Officiers, and Cheva[illegible]

A pension is granted to the military members according to their class, and free education is given to 400 of the daughters or sisters of its members. The president of the republic is grand chancellor of the order.

Legislation and Legislative Processes. Legislation means the making of laws by a sovereign body elected or otherwise existing for that purpose. Although at the present day legislation popularly connotes exclusively the formal r[illegible]ar liaments or a connotation [illegible]r-whelming importance of this one process of legislation, it is to be noted that there co-exist other sources of new laws, or at all events newly applied legal principles. In England the crown still possesses, by virtue of its prerogative (*see under* CROWN), some ill-defined power of legislating in an emergency by proclamation, though it would probably do so on the advice of the ministry and its action as probably endorsed by an Act of Indemnity. Again, the judges have a covert and unavowed power of legislation. It is an axiom of legal administration that the English judges only *declare* law; but a study of the law reports makes it apparent that old *rationes decidendi*, or principles, are constantly undergoing a slow but gradual reversal or modification by the process of engrafting so many exceptions on them as ultimately to render the old principles unrecognisable. At one time the English judges were so confident of the perfection of the common law that they began to act on the principle that statutes were nugatory unless their meaning was clear to the mind of the judge himself. This principle of interpretation was not long encouraged. It obviously opened the door to prejudice. Modern English judges either interpret enacted law

[illegible]

where the natural meaning is rejected in favour of one more consonant with the intention of the legislature. Generally speaking, however, judges have no concern with legislational intentions if those intentions have not found expression in enactments.

In progressive societies legislation, according to Maine, comes last in historical order among the agencies by which law is brought into harmony with society (*see* EQUITY,

obligatory force in no way depends upon its principles, for theoretically parliament or an autocratic prince can legislate in defiance of public opinion. That legislatures do not in fact do so at the present day is because their enactments are in accordance with the morality and sentiments of either the actual majority or at least a very respectable proportion [illegible] ould be an inquiry to [illegible] elations of custom or customary law (*see* CUSTOMS, CONSUETUDINARY) and legislation. Customs have frequently crystallised into legislative enactments, and on the other hand, general enactments have often expressly respected customs. At all events one assertion of Maine's seems historically accurate that generally speaking the epoch of customary law is everywhere the immediate predecessor of the era of codes (*q.v.*).

Legislation in the sense of enacted law everywhere tends to absorb all other sources and even forms of law. Rights and duties may, of course, be created by private bodies in whom has been vested a restricted autonomy. For example, the shareholders of a company may, by a resolution at a general meeting, alter the Articles of Association, and such alteration will, even if not unanimous, be binding on the minority if not otherwise *ultra vires*. This species of autonomic law, if the Austinian conception of law as a command imposed on an inferior by a superior without reference to the will of the former be regarded, is, therefore, the product of a true form of legislation, though in a wider sense it may be assumed to be merely what in jurisprudence is called 'conventional law,' or law which creates rights and duties by vir[illegible] ment. But even in thes[illegible] modes of legislation, or [illegible] tion, the hand of enact[illegible] cernible, *e.g.* in the minute details to be found in the Companies Consolidation Acts, relating to the manner of altering the articles of a company. Statute law in England, as will be seen in the Year Books, occupied quite a minor position as compared with common law in the middle ages. Practically two-thirds of the Acts recorded on the statute book between the middle of the 13th and the middle of the 19th century were passed in the last 200 years of that period. The rate is now considerably accelerated, and the activity of the present Liberal government during its seven years of office is manifested by the size of the authorised books of statutes. It is not surprising that, in the present state of society, social relations should in all conceivable cases be regulated by legislation, whatever may have been the case in what is called by Professor Hobhouse the authoritarian stage of society. It is one of Maine's aphorisms that society has moved from status to contract, or, as it may with less accuracy be termed, from inequality to equality. The Austinian definition of law as a command is justified when applied to an era characterised by arbitrary and unconstitutional legislation imposed on a people whose bodies were virtually at the disposal of their sovereign, and their minds, in tacit acquiescence with the then established order of things, accepted the royal authority as a divine mandate. Democratic ideals have, however, destroyed the truth of Austin's definition as applied to present-day legislation. Even if legislative Acts in England are not imposed by consent in quite the same degree as Acts imposed through a referendum (*see* INITIATIVE), the principle of representation ensures the almost completely consensual nature of modern statute law. Further, the principles of status or caste having at all points yielded to those based on agreement or contract, it follows that fresh rights and duties will, for the most part, have to be embodied in legislative expression before they will be respected.

It is asserted by some writers that the mass of modern legislation is explained by the fact of the abandonment of the doctrine of *laissez faire*, and the consequent extended range of activity of the central authority in the state, whether in the shape of direct or indirect legislation (*see* CENTRALISATION, LOCAL GOVERNMENT). Professor Robertson (Lord Guthrie) has given it as his opinion [illegible] tion in which the [illegible] to interfere is as [illegible] ever been, and [illegible] e of the prolific legislation is that parliament has won for itself the position of being the exclusive source of legal changes. This is, no doubt, an element in the cause, but the social reformative and local governmental legislation (*see* LOCAL GOVERNMENT, LIBERALISM) of the last thirty years is against Professor Robertson's assumption; and in any event this activity of the central authority is not the expression of the arbitrary will of a sovereign suddenly roused, but that of deliberate public opinion. It is public opinion which gives the real sanction and seal to legislation, and the morality manifested by that opinion is the whole principle of the science of legislation.

Legislative processes. — In ancient Rome, there was but little direct

law-making, except to meet temporary emergencies. Such laws as were made were first proposed and determined on by the senate, under the guidance of the king as the chief magistrate, and then submitted to the supreme council of the *gentes* (*comitia curiata*). The king himself as *pontifex maximus* promulgated laws (*leges regiæ*) relating exclusively to religious ceremonies. Later, and after the assembly of the tribes had superseded that of the centuries, the chief process of legislation was by *plebiscita*, though the ordinances of the senate (*senatus consulta*) from being of doubtful authority were gradually acquiring importance. The senate also issued injunctions in the form of directions to particular magistrates, and, according to Puchta, before the era of the republic had closed, made independent enactments by decree [illegible] gion, police,

After the empire, the anged com- ource. The emperor, nominally only chief magistrate, acquired the *imperium*, or supreme command in the state, and gradually absorbed the sole legislative authority, dictating to the senate what it was to enact or else enacting law himself. The processes by which the emperor's will expressed itself in legislation were by *edicta*, enunciated in his capacity as magistrate, *mandates*, or orders, directed to particular officers, *epistles* addressed to individuals or public bodies; *decrees* or judicial sentences having the force of precedents; and *rescripts* to magistrates by way of answer on points of difficulty. Nominally the people continued to make laws, but they were no more than laws passed at the bidding of the emperor. The process of legislation was for the emperor to lay a bill or *lex* before the senate in an *oratio* or *epistula*, after which it received the more or less formal *auctoritas* of the senate. A curious instance affording a modern parallel to the Roman imperial oratio was the astonishing communication of President Taft in 1912 to the Congress, inviting the latter to pass the Panama Canal Bill, which Bill, according to English opinion was a flat violation of the Hay-Pauncefote treaty. In England, legislation under the Norman kings was by charter issued by the king and assented to by the barons; these charters were hardly more than confirmations of customs and liberties (*see under* FRANCHISE). The Angevin kings made laws by *assize* (*assisa*, statute) issued by the advice and consent of the barons, archbishops, abbots, and other members of the royal council, and proclaimed in the shire courts by the sheriffs. According to Stubbs they remained in force during the royal pleasure. In Henry III.'s reign, legislation was, by a form, called *provisions*, *e.g.* the Provisions of Oxford; and towards the end of the 13th century by statute and ordinance. Statutes were enacted by the assent of the prelates, earls, barons, and the commonalty of the realm. Statutes were generally founded on petitions addressed to the king by the Commons, with the assent of the prelates, earls, and barons. The petitions were referred to a committee of the peers and answered by the king on their advice, the statute itself being framed from the petition and its answer (*see* Feilden's *Short Constitutional History of England*, and Stubbs's *Select Charters*). The prerogative power of legislation by ordinance was of short duration, and the enactments so made were not enrolled in the Year Books, unless ultimately converted into Acts of parliament. When the executive and legislative functions became more clearly separated, and the Commons had gained the controlling power in initiating legislation, they protested against legislation in the guise of an executive ordinance, and accord[illegible] the 15th ordinance century in issued by the crown in council by way of supplement to statute law, and later as completely independent autocratic enactments. Charles I. issued many of these illegal proclamations, but they disappeared after 1640. The claim of the Stuart kings to dispense with the operation of particular statutes in individual cases, or to suspend an Act altogether, was abrogated by the Bill of Rights in 1689. The crown can, however, still manifest the residue of its discretionary power by means of *Orders in Council*, and *Proclamations*; but they are probably made subject to the assent of parliament and, in any case, are revocable by statute. Legislation is now by Bill passed in both houses of parliament, or under the Parliament Act, passed in the Lower House, and thrice within a period of two years submitted to the Upper House, and assented to by the king. (For the procedure *see under* PARLIAMENT; COMMITTEES).

Following the example of Great Britain, the process of legislation in the United States, both in the States and the Federal legislation, is by bills presented to and passed by two chambers—a House of Representatives, and a Senate. The subjects of state legislation, as distinct from fede-

ral legislation, are limited to those which do not relate solely to the collective life of the nation, and all powers not expressly allotted to the Federal government are left automatically to the states as of right. The two Federal assemblies of the central government together form Congress. Every bill introduced in the House of Representatives is referred to one of some sixty different committees, and then comes up for deliberation by the whole House. It seems that very few of the vast number of bills brought in pass. A bill that passes is then sent to the other House, and goes through a similar process. A compromise by conference may be effected, where the bill as passed in each House differs. If the bill passes both Houses, it is sent to the president, and if approved by him, and not returned within ten days, automatically becomes law. If vetoed by the president, it is sent back to its House of origin, and if again passed by a two-thirds [illegible] referred back to the other [illegible] if there passed by a lik[illegible], becomes law without the president's assent. Changes in the constitution require for their validity the sanction of three-fourths of the states, and apparently no state can be constitutionally deprived of its equal suffrage in the Senate without its consent. Unconstitutional enactments, whether of Congress or the States legislatures, are void, and are so treated by the courts. Legislation in Germany, France, and most other civilised nations of to-day, is fundamentally similar in process to that of the bicameral and representative systems of Great Britain and the United States. See also under the respective countries.

Legislature, the body of men in any state constitutionally vested with the power to make, amend, or repeal laws. Constitutionally, the sovereign L. in England is the House of Commons, the House of Lords, and the King. But the king's veto is never exercised (*see also* CROWN), and the Parliament Act has cut down the power of the Upper House to this extent, that bills three times sent up to that House within the space of two years automatically become law. There is theoretically nothing which a sovereign L. cannot do, but in those states where the L. is representative the will of the L. is more or less a faithful reflection of the will of the political sovereign—the electorate (*q.v.*). In England there is no law that the L. cannot make or abrogate, but in U.S.A. unconstitutional laws are void and can be so treated by the courts; and in Switzerland the Federal Assembly cannot alter a constitutional principle without the consent of the people (*see also* INITIATIVE), while an ordinary law may, on demand of 30,000 citizens or eight cantons, be submitted for consent by the popular vote, even though already passed by the Assembly. As to the relations of the English L. and the Executive, *see* under CABINET and EXECUTIVE, and for the Ls. of the crown colonies, *see* under that title. *See also* LEGISLATION AND LEGISLATIVE PROCESSES.

Legitim, or Bairn's part of Gear, in Scots law, that portion of the free movable property of the father to which his children are entitled at his death. If the father leaves one or more children but no widow, the former get one-half as their L., the other half being dead's part (*q.v.*). If he leave both widow and children, the widow takes one-third, one-third goes to the children as L., and the remaining third is dead's part (*see also* JUS [illegible]). There is no right of repre[illegible] as to L., and hence the [illegible] of a deceased child have no claim to that part of their grandfather's estate which their parent would have been entitled to as L. had he survived. The right to L. is defeated if the father makes provision, however small, for his children in an antenuptial contract of marriage, expressly by way of substitution for L., but if he settles the whole of the property on the children by such contract, even though subject to a liferent (*q.v.*) for the wife, the right to L. is excluded by implication (*see also* FORISFAMILIATION). Generally speaking, children claiming L. must collate any separate provision received by them from, or any advancement made to them by, the father (*see* HOTCHPOT); and this applies to the heir in heritage, who must collate the heritage, unless he be an only child. Bell's *Principles of the Law of Scotland;* Erskine's *Principles of the Law of Scotland.*

Legitimacy. By English law, a child born anywhere in lawful wedlock is legitimate, *i.e.* to quote a hypothetical case in Foote's *Medical Jurisprudence*, if people are married at two o'clock, and a child is born at three o'clock on the same day, that [illegible] law in [illegible] born [illegible] s law recognises *legitimatio per subsequens matrimonium*, *i.e.* legitimation by the subsequent marriage of parents (*see* LEGITIMATION). Questions of L. have frequently arisen in law-suits when, though a child has been born in wedlock, the parties have not been accessible to each other. But a man's accessibility to his wife is by the Eng-

lish law of evidence taken for granted if, to use a quaint old phrase, he was 'within the four seas of the realm.' English law, however, recognises as legitimate children born out of wedlock, but whose parents have subsequently married, if both the law of the father's domicile at the date of birth and that of his domicile at the date

exclusively by the law of the place where the property is situate (see *lex loci rei sitæ*, under LEX LOCI), and if that law allows legitimation, the child is legitimate. And generally it is a principle of the comity (*q.v.*) of nations to recognise the L. of children who are legitimate by the law of their place of origin, *i.e.* the father's domicile. Apart from these cases the status of L. cannot by English law be acquired by
the father's
the date of
Illegitimate children are not
to any disabilities in Englar
political nature. The only
quences of illegitimacy are in regard to the devolution of property on intestacy (*see* INHERITANCE, DISTRIBUTIONS, STATUTES OF, HEIR, DESCENT). No person born out of wedlock can be an heir to English real property, though such property may, of course, be validly left to him by will. Nor can such a person ever succeed to a peerage or other hereditary dignity, for these are not the subject of testamentary disposition. It is to be noted that the effect of the Colonial Marriages (Deceased Wife's Sister) Act, 1906, allows the L. for all
including the succession to h
dignities of the issue of a
with a deceased wife's siste
at the date of such marriage each of the spouses was domiciled in a part of the British empire on which at that date such
ject to this,
in propert
disturbed. The Deceased Wife's Sister's Marriage Act, 1907, has the effect of legitimising the issue of any union with a deceased wife's sister, whether contracted before or after the Act was passed (*see also under* DECEASED WIFE'S SISTER). Applications to the Divorce Court for declarations of L. or validity or invalidity of marriage, are made under the
visions of the Legitimacy Declar
Act, 1858. Under that Act a pe
may also claim to establish his
to be deemed a natural-born su
(*see also* as to Scottish law *under* DECLARATOR).

Legitimation, in Scots law, is the act by which children born out of wedlock are made lawful for the purpose of extending to them the privileges of truly lawful children. L. *per subsequens matrimonium* is a process derived from the canon law, which allowed the L. of all bastards (*q.v.*), whether the offspring of concubinage or not, if the parents were capable
marrying at the date of concep
on (some authorities say the date
birth) and afterwards actually
arried. Hence, if either the father or mother were married to another at the date of conception (or birth), the offspring could never be subsequently legitimated. L. *per subsequens matrimonium* gives the bastard the full rights and status of lawfully begotten children, *e.g.* he may succeed equally with other issue to property on an intestacy, is entitled to legitim, etc. (*q.v.* and DEAD'S PART). Where parents are domiciled, have bastard children, and then marry in a country the law of which does not recognise L., the children are not
to real estate in
w applicable is
see LEGITIMACY
and LEX LOCI). Another mode of L. recognised by Scots law is by letters of L. from the sovereign (L. *per rescriptum principis*). Generally speaking, the only effect of this mode of L. is to defeat crown rights to property on intestacy; for in form letters of L. confer a right on a bastard who has no lawful issue to dispose of his property during his lifetime or by will, which right he enjoys independently of such letters. The law of L. does not apply to England. *See* Bell's *Principles of the*
See also LEGITIMACY.

. . *legitimistes*, from legitimate), the a party in France, who, after the Revolution of 1830, continued to uphold the claims of the elder branch of the Bourbon house. The position of Napoleon III. at the head of affairs retarded their cause, but on his fall in 1871 their hopes were raised. The Comte de Chambord gave them his support, but on his death in 1883 their party was practically dissolved, only an insignificant remnant remaining (*see* BOURBON FAMILY). The word 'legitimiste' has now spread beyond France, and is applied in England to any supporter of monarchy by hereditary right as
other title.
33 m. S.E.
one of the
so-called
m.) 15,000.

Legnano, a tn. of Italy in Lombardy, prov. Como, 16 m. N.W. of Milan. Pop. 17,500.

Legnone, Monte, a mountain in the Alps, Italy, the highest summit of Italy, on the E. side of Lake Como. Has an altitude of 8565 ft.

Legouvé, Gabriel Jean Baptiste Ernest Wilfrid (1807-1903), a French dramatist and academician, born in Paris. In 1832 he published a little volume of verses entitled *Les Morts Bizarres*, followed by a succession of novels, the chief being *Edith de Falsen*. In 1849 he made his mark as a dramatist with *Adrienne Lecouvreur*, written in conjunction with Scribe. In 1855 appeared his tragedy of *Médée*, which achieved a great success. Later he became less prominent as a playwright, and was known for his studies on the character and needs of women and children in France. His *La Femme en France au XIX^e Siècle, Messieurs les Enfants, Conférences Parisiennes, Nos filles et nos fils*, and *Une éducation de jeune fille* were works of wide-reaching influence in the moral order. *See* Quérard, *La France Littéraire*.

Legrand, Jacques Guillaume (1753-1806), a French architect, born in Paris. He was employed as architect of most of the public edifices in Paris, amongst them being the Halle au Blé, Halle aux Draps, and Théâtre Feydeau. Molinot was his collaborator in these works. L. was also sole architect of the little building known as the Lanterne de Demosthène in the Park of St. Cloud, which was destroyed during the war of 1870. He wrote *Essai sur l'histoire de l'architecture*, and *Parallèle entre l'architecture ancienne et moderne*.

[illegible]

the museum at Tours. In 1859 his 'Angelus' was exhibited, and was highly praised. In 1863 L. came to England and married, and became teacher of etching at the S. Kensington School of Art, and in 1876 Slade professor at University College, London, in succession to E. J. Poynter. His pictures are chiefly French rural scenes and portraits and etchings. *See* Leoncé Bénédite, 'Alphonse Legros' in *Revue de l'Art*, Paris, 1900.

Legya, or Laihka, a vil. in Shan States, Upper Burma, 120 m. S.E. by E. of Mandalay. Produces rice, cotton, and sugar-cane. Manufs. iron and lacquer ware. Pop. (state) 26,000.

Leh, a tn. of Kashmir, India, cap. of Ladakh, 160 m. E. of Srinagar. It is enclosed by a wall and towers, and has several Bhuddist temples, a rajah's palace, bazaar, observatory, and mint. It is the great rendezvous for intercourse between the Punjab and Tibet, and Chinese Turkestan. It has an active trade in shawl-wool. L. lies between the Indus, about 5 m. distant, and a chain of mountains.

Lehe, a com. of Prussia, prov. of Hanover, 2 m. N. of Bremerhaven. Has breweries and distilleries. Pop. 37,454.

Lehigh, a riv. in Pennsylvania, U.S.A., 120 m. long. Anthracite mines are worked near it, and it has slack-water navigation to Whitehaven.

Lehighton, a tn. of Carbon co., Pennsylvania, U.S.A., on the W. bank of the Lehigh R., 20 m. N.W. of Allentown. It has coal mines and manufs. of silk, waggons, etc. Pop. (1910) 5316.

Lehmann, Rudolph (1819-1905), a German painter, born at Hamburg. Much of his work done while sojourning at Rome represents the manners and scenery of Italy. Some of his best known pictures are: 'Sixtus V. blessing the Pontine Marshes,' 'A Reaper whose Name is Death,' and 'Early Dawn on the Pontine Marshes.' In 1894 he published *An Artist's Reminiscences*, and two years later, *Men and Women of the Century*.

Leibniz (more commonly known as **Leibnitz**), **Gottfried Wilhelm, Freiherr von** (1646-1716), a German philosopher and mathematician, born at Leipzig. In 1661 he entered the University of Leipzig as a law student, and in 1666, being refused his doctor's degree on account of his youth, he applied to the university town of Nuremberg, Altdorf, which not only conferred upon him his degree but offered him a professor's chair. At Nuremberg he made the acquaintance of Baron von Boineburg, who advised him to dedicate his treatise, *Nova methodus docendi discendique juris*, a proposal for the reform of the *Corpus Juris*, to the Elector of Mainz. In this way the young man attracted the attention of the Elector and entered his service. At first L. assisted in the revision of the statute book. In 1669 he was re-

[illegible]

tionum politicarum pro rege Polonorum eligendo had not the desired effect, and a Polish prince was elected. At this time Germany was in danger of attacks by the aggressive Louis XIV., and, in order to divert his attention from any such projects, he was approached with a scheme of L. for the French conquest of Egypt. In 1672 L. v[illegible] pour[illegible] laid[illegible] and [illegible] lieve[illegible]

plan for the invasion of Egypt on finding the *Consilium* in Hanover in 1803. In Paris L. made the acquaintance of Christian Huygens, who spurred him on to a deeper study of mathematics. Here, too, he became the friend of Arnauld and Malebranche, and during his visit to London he met Newton, Boyle, and Oldenburg. He invented an intricate calculating machine, for which he was elected a fellow of the Royal Society of London in 1673. About the same time he discovered a new method of the differential and integral calculus, which Newton also claimed as his invention. On his return to Germany in 1673, L. left the service of the Elector of Mainz, and placed himself under Duke John Frederick of Brunswick-Lüneburg, who, in 1676, appointed him librarian at Hanover. He was also employed to write a history of the house of Brunswick, and visited the libraries of the chief cities of Germany, Austria, and Italy to collect his materials. He was much interested in the suggested union between the Roman Catholic and Protestant churches, and contributed to the discussion [illegible] written in [illegible], but not published till 1819. In [illegible], at his instigation, founded the Akademie der Wissenschaften at Berlin, and L. was elected president for life. While on a visit to Vienna, 1712-14, he was elected an imperial privy councillor and made a baron (*Reichsfreiherr*) of the empire. On his return he found that the Elector George of Hanover had been created king of [illegible] and though he would have [illegible] master [illegible] remain behind to finish his history. Two years later he died. In 1696 he wrote his *Nouveaux Essais sur l'Entendement Humain* (1765), which is a critical analysis of Locke's *Essay on the Human Understanding*, published in 1690. In 1710 he published *Essais de Théodicée sur la bonté de Dieu, la Liberté de l'Homme, et l'Origine du Mal*, and in 1714 appeared *La Monadologie* and *Principes de la Nature et de la Grace*. L. had read widely, and, having assimilated various philosophical systems, his own is somewhat eclectic. It stands between the dualism of Descartes, who separated all things into two heterogeneous substances, and the monism of Spinoza, who held that all are absorbed in one divine substance. In L. doctrine of substance, the universe consists of simple and similarly constituted monads, which differ in quality but are all alike in being percipient and self-active. These series of monads, though acting independently, are all in harmony with each other and with God, who is the prime and efficient cause of all things. He held that the ultimate reality of substance is force, each monad having an inherent striving property, the ultimate aim of God's universe being perfection. He recognised the presence of evil, but believed in its final suppression, thus contending that this is the best possible world, and that faith and reason are essentially harmonious. No complete edition of the works of L. has yet been published. The best editions are: Dutens, *Opera Omnia*, 1768; Pertz and Gerhardt, *Leibnizens gesammelte Werke* (19 vols.), 1843-90; Foucher de Careil, 1859-75; Erdmann, *Leibnitii opera Philosophica*, 1840; Gerhardt, *Die Philosophischen Schriften von G. W. Leibniz*, 1875-90; and *Leibnizens Mathematische Schriften*, 1850-63. Consult the biography by G. E. Guhrauer (2 vols.), 1842; Grote, 1869; and Pfleiderer, 1870; and critical studies by Fluerbach, 1844; Caspari, 1870; A. Pichler, 1869-70; Couturat, *La Logique de Leibniz*, 1901; E. Cassirer, *Leibniz's System*, 1902, and C. Braig, *Leibniz*, 1907; A. W. Russell, *A Critical Exposition of the Philosophy of Leibniz*, 1900; and L. Daville, *Leibniz historien*, 1909.

Leicester, the county tn. of Leicestershire, England, 97¼ m. by rail from London. It is one of the oldest towns of England, and stands on the site of the ancient Ratæ. Formerly it was the seat of an abbey, in which Cardinal Wolsey died in 1530. Its Norman castle was dismantled by Charles I. in 1645. The staple trade of the town is woollen hosiery, and there are also manufs. of boots and shoes, lacemaking, and various other industries. Pop. (1911) 227,242.

Leicester, Robert Dudley, Earl of (c. 1532-88), the fifth son of John Dudley, Duke of Northumberland, and a favourite of Queen Elizabeth. He went to court at an early age, and was married to Amy Robsart in 1550. His father was executed for supporting Lady Jane Grey in 1553, and Dudley, who aided in the attempt to place her on the throne, was imprisoned in the Tower. On the accession of Elizabeth he was released, and soon became the Queen's favourite. In 1560 his wife met her death by falling down a flight of stairs, and it was generally believed that either Dudley or Elizabeth had planned the accident (*see* Scott's novel, *Kenilworth*). L. seems to have had little or no influence with Elizabeth in political affairs, but in 1585 she placed him in command of an expedition to the Netherlands, and in the following year he was appointed governor. In this position he showed himself in-

capable, and was recalled in 1587, dying the following year. *See* Bekker's *Elizabeth and Leicester*, 1890.

Leicester, Thomas William Coke, first Earl of (1752-1842). He was member of parliament for Norfolk from 1776 until 1806, and again from 1807 until 1832. He became a farmer on a large scale, and interested himself in breeding. He became in 1837 Earl of Leicester. There is a biography by Mrs. Stirling.

Leicestershire, a midland co. of England. The surface is chiefly low and flat with a few hills, the highest elevation being that of Bardon Hill (912 ft.) in Charnwood Forest (*q.v.*). The principal rivers are the Trent, the Avon, and the Welland. Nearly the whole county is under cultivation, the pastures being good; cattle are reared extensively, and there is a special breed of sheep known as the New Leicester. Dairy farming is also carried on, and the famous Stilton cheese is made near Melton Mowbray, which is also famous for a certain kind of pork pie. It is a great hunting county, and in consequence horse-breeding flourishes. There are considerable mining industries, coal, limestone, freestone, and granite all being found. The county has been famous for its wool as far back as 1343, and has large hosiery manufactures at Leicester, Loughborough, Hinckley, etc. Boots and shoes are manufactured at Market Harborough, and there are also brick fields and iron foundries. It contains six hundreds, and returns four members to parliament. The area is 859 sq. m. Pop. (1911) 481,115. See *Victoria County History*, 'Leicestershire.'

Leichhardt, Friedrich Wilhelm Ludwig (1813 – c. 1848), a German explorer, born at Trebatsch in Prussia. He travelled for a time on the Continent and in England, and then went to Australia in 1841, where he immediately began geological investigations and conducted important explorations, later described in his *Contributions to the Geology of Australia*. He set out on a second expedition in 1844, publishing the results in his *Journal of an Expedition in Australia, from ... ton Bay to Port Essington*. L. ... on his last expedition in 1848, and from that time nothing was heard of him. See *Life* by Zuchold, 1856.

Leichlingen, a tn. in the Rhine prov. of Prussia, 12 m. S.S.W. of Elberfeld. Pop. 7042.

Leiden, *see* LEYDEN.

Leigh, a tn. in Lancashire, England, 7 m. S.W. of Bolton. Has extensive textile manufactories and glass works, and coal is found in abundance. Pop. (1911) 44,109.

Leigh, Henry Sambrooke (1837-83), an author, wrote the libretti of many comic operas and opera-bouffes, but he is best known, and now only remembered, for his verses, *Carols of Cockayne* (1869), *Gillott and Goosequill* (1871), and *Strains from the Strand* (1882).

Leigh-on-Sea, a rising watering-place of Essex, England, 2 m. W. of Southend, of which it is really an extension. Pop. (1911) 7716.

Leighton, Frederick Leighton, Baron (1830-96), an English painter and sculptor, bor... at ... Florence he ... Segnolini, a... years there he went to Frankfort, visited Brussels and Paris, then settled down to study under Edward Steinle. His first picture to attract attention in England was 'Cimabue's Madonna carried in Procession through the Streets of Florence,' which was exhibited in the Royal Academy in 1855, and which was bought by Queen Victoria. The following year he sent another picture, 'The Triumph of Music,' but it was not so successful, and he did not exhibit again until 1858. In 1866 he moved into his now famous house at Holland Park Road, containing a beautiful Arab hall with Damascus tiles, which has since been purchased by the nation. Among his earlier pictures was the popular 'Wedded,' but it was in his treatment of classical subjects that L. especially excelled, and among his most famous pictures may be mentioned: 'Venus disrobing for the Bath' (1867), 'Helios and Rhodos' (1869), 'Clytemnestra' (1874), 'The Daphnephoria' (1876), 'Phryne' (1882), 'Cymon and Iphigenia' (1884), 'Captive Andromache' (1888), now in the Manchester Art Gallery, as is also 'The Last Watch of Hero' (1887), 'The Bath of Psyche' (1890), bought by the Chantry Bequest, 'The Garden of the Hesperides' (1892), 'Perseus and Andromeda' and the 'Return of Persephone,' both in the Leeds Gallery (1891), and 'Clytie' (1896). L. was elected an ... in 1868, and exhibited ... picture, 'St. Jerome,' in ... came president in 1878, when he was knighted, being raised to the peerage a few days before his death. His work is characterised by the beauty of the composition both in form and colour, and his almost perfect draughtsmanship made him unrivalled in his decorative work. L. also excelled as a sculptor: his 'Athlete struggling with a Python' (1877) was purchased by the Chantry Bequest; 'The Sluggard' and 'Need-

less Alarms' being exhibited in 1886. As an illustrator he also did good work, especially for the cuts to Dalziel's Bible, and a series of illustrations for George Elliot's *Romola*, which reveal an unsuspected sense of humour. His decorative work may be seen at the Victoria and Albert Museum in the fresco, 'The Industrial Arts of War and Peace,' also his 'Cimabue' in mosaic. Lyndhurst Church also possesses mural decorations illustrating 'The Parable of the Wise and Foolish Virgins,' to the memory of Mr. Pepys Cockerell. L. possessed many foreign orders and distinctions, and belonged to all the principal foreign academies. See *Art Annual* (Mrs. A. Lang), 1884; C. Monkhouse, *British Contemporary Artists* (London), 1899; and Ernest Rhys, *Frederick, Lord Leighton* (London), 1898 and 1900.

Leighton, Robert (1611-84), Archbishop of Glasgow. From 1641-52 he had the care of a Presbyterian church in Newbattle, Midlothian, and from 1653 to 1660 (?) was principal of his old university. For nine years from 1661 he held the bishopric of Dunblane, and in 1670 accepted from Charles II. the archbishopric of Glasgow. Four years later he retired into private life. Bishop Burnet paints L. as a sombre divine who rarely smiled, and who, like Milton's Penseroso, walked towards death silent and solitary. His writings reveal a true literary sense and an intellectual outlook in advance of that of other divines of his day.

Leighton Buzzard, a market tn. of Bedfordshire, England, 36 m. N.N.W. of London. Straw-plaiting is the principal industry, and there is some trade in timber, corn, and iron. It has a fine old cruciform church. Pop. of urban dist. (1911) 6784. *See* J. Stevenson's *Old Times in Leighton Buzzard*, 1891.

Leiningen, a former principality of Germany, dating back to the 11th century, now shared mainly between Baden, Hesse, and Bavaria since the peace of Luneville in 1801.

Leinster, the S.E. prov. of Ireland, comprising the counties of Dublin, Kildare, Carlow, Kilkenny, King's, Queen's, Longford, Louth, Meath, Westmeath, Wicklow, and Wexford. Has an area of 7622 sq. m. Pop. (1911) 1,160,328.

Leiodon, or *Mosasaurus*, a genus of fossil reptiles, belongs to the family Mosasauridæ, and the species are found in the Upper Cretaceous system of Europe and N. America.

Leipa, *see* BÖHMISCH-LEIPA.

Leipzig, a tn. 350 ft. above the sea-level and 70 m. N.W. of Dresden in the kingdom of Saxony, Germany. It is situated in a flat and fertile tract of country, close to the confluence of the Elster, Pleisse, and Parthe. There are two great fairs, held at Easter and Michaelmas. Its book trade is not far short of that of Paris and London, and there are over 900 booksellers and publishers in the town. Cigars, lace, ethereal oils, etc., are manufactured, and there are thriving iron and cotton industries. The Gothic Rathaus, built in 1556, flanks one side of the spacious market square, and close by is Auerbach's 'Hof' (1530), famous for its association with Goethe's *Faust*. The town is adorned with many statues. L. is pre-eminent in art and culture. After Berlin and Munich it boasts the largest number of undergraduates, and traces the history of its university back to 1409. Mendelssohn founded the conservatoire in 1843, and the Gewandhaus concerts, the operas, and the numerous choral and orchestral societies bear witness to the fulness of its musical life. In the neighbourhood is the famous battlefield where in 1813 Napoleon was defeated by the allies. Pop. (1910) 585,743.

Leisnig, a tn. 26 m. E.S.E. of Leipzig, Saxony. Industries: textiles, shoes, and machinery. Pop. 7994.

Leiston, or Leiston cum Sizewell, a par. and vil. in Suffolk, England, 21 m. S.S.W. of Lowestoft. Here are iron and agricultural implement works. It contains ruins of a 14th or 15th century abbey. Pop. (1911) 4359.

Leith, the port of Edinburgh, Scotland. It is situated on the southern shore of the Firth of Forth in the county of Midlothian, and its southern extremity adjoins the northern border of the metropolis. It does a large traffic with Hamburg, Antwerp, Stettin, Copenhagen, and Christiansand, etc. The harbour, dock, and warehouse accommodation is excellent. Shipbuilding, engineering, soap-boiling, and sugar-refining are the chief industries, and the whisky trade is centred here. The net tonnage of vessels entering and departing was 3,220,683 in 1910. Pop. (1911) 80,489.

Leitha, a riv. of Austria-Hungary, rising at the junction of the Schwarzau and Pittenau mountains. It flows generally N.E. for 110 m., and joins the Danube at Ungarisch-Altenburg.

Leitmeritz, a tn. and episcopal see on the r. b. of the Elbe, Bohemia, Austria, 36 m. N.N.W. of Prague. There are iron foundries, and malting. ting is carried d L. is called Pop. 15,450.

Leit-motif (Ger., leading motive), a

musical term used to describe a distinctive passage or phrase, forming the principal theme of a composition, first popularised by Wagner for the basic material of his musical dramas.

Leitomischl, or Leutomischel, a tn. in Bohemia, Austria, 32 m. S.E. of Königgrätz. It contains a castle, Piarist college, and manufs. jute and woollens. Pop. 7795.

Leitrim, a maritime co. of Ireland in the prov. of Connaught, bounded N.W. by Donegal Bay. The surface of the county varies, the N. being mountainous, the S. more or less level, and the scenery is extremely beautiful. In the N. are the Druskmore Hills, but E. of Lough Allen is Slieve Anierin (1922 ft.), the highest point in the county. The chief rivers are the Shannon, the Bonnet, the Drones, and the Duff. There are numerous loughs, of which Lough Allen (8900 acres) is the largest; and the trout fishing is very good. A small quantity of coal is found, but the county is not very productive; the soil is moist and heavy, and the grain crops are poor. Potatoes are grown, and some cattle and sheep reared. Linen of a rough kind is manufactured, and there are some potteries. It is divided into five baronies, but the only two towns are Carrick-on-Shannon and Manor Hamilton. There are two parliamentary divisions, each returning one member. Area 619 sq. m. Pop. (1911) 63,557.

Lekin, a Chinese transit duty, *see* LIKIN.

Leland, Charles Godfrey (1824-1903), an American author, born at Philadelphia. He was admitted to the bar in Philadelphia (1851), but soon devoted all his time to literary work of an editorial and journalistic nature. Gypsy language and history was one of his special studies, and he also obtained a reputation as a German scholar. In 1861 he established the *Continental Magazine* in Boston. L.'s best-known work is *Hans Breitmann's Ballads*, recounting the numerous diverting adventures of their hero, told in the patois termed 'Pennsylvania Dutch.' He also is the author of *Sunshine in Thought; English Gypsies and Their Language; English Gypsy Songs; Autobiographical Memoirs*, etc. See *Life* by Pennell, 1905.

Leland, John (c. 1506-52), an English antiquary, born in London. Taking holy orders, he became chaplain and librarian to Henry VIII. in 1533, and also received the commission of king's antiquary, with power to search for records, manuscripts, and documents of antiquity in all the religious houses of England. In 1536 he was made canon and prebend of King's College, Oxford, and a prebend of Salisbury. Most of L.'s work was in manuscript at the time of his death, the bulk being deposited by Burton in the Bodleian at Oxford. His most important works are the *Itinerary* and the *Collectanea*. *See* John Bale, *Catalogues*, 1557.

Leland, Thomas (1722-1785), a classical scholar and historian, born at Dublin. Translated Demosthenes' *Orations*, the first volume appearing in 1756 and the last in 1770. In 1763 he was appointed professor of oratory in Trinity College. He published: *History of the Life and Reign of Philip of Macedon; Dissertation on the Principle of Human Eloquence;* and *History of Ireland*.

Leleges, a tribe, according to Greek tradition, who inhabited the islands of the Ægean Sea and the coast of Asia Minor, N. of Ephesus. In the *Iliad* they are described as a tribe in South-Western Troas, the allies of the Trojans.

Lelewel, Joachim (1786-1861), a Polish historian, born at Warsaw. He became lecturer of history at Vilna (1814). He retained the chair till 1824, when he was dismissed on the supposition of having taken part in secret revolutionary proceedings. In 1829 he became a prominent leader of the Polish revolution, and on the failure of the uprising fled to France. His writings are extensive and of high value, and his works on Polish history have been collected and published (1853-76).

Lely, Sir Peter (1617-80), an English painter, born at Soest, Westphalia. Studied under Peter de Grebber at Haarlem, and then came to England in 1641, where he began painting historical subjects and landscapes, soon becoming eminent in his profession and being employed by Charles I. to paint his portrait. At the accession of Charles II., L. was made state painter and knighted. His most celebrated work is a collection of portraits of the ladies of the court of Charles II., now at Hampton Court Palace. His best known historical pictures are: 'Susannah and the Elders,' and 'Jupiter and Europa.' L.'s portraits are after the style of Vandyck, carefully finished, and warm and clear in colouring. *See* [illegible] *Lives of Eminent*

[illegible] ·erica, be-
[illegible] Staten Is.
[illegible] a Dutch
navigator, who gave it his name. Width 20 m.

Lemaître, Antoine Louis Prosper [illegible] French actor.
[illegible] Paris, com-
[illegible] In 1823 he

made his début at L'Ambigu, Paris, in the rôle of Robert Macaire in *L'Auberge des Adrets*, and immediately became famous. Among the most important plays in which he appeared were *Trente ans, ou la vie d'un Joueur, Hamlet, Falstaff, Kean, Ruy Blas, Le Vieux Caporal, Le Maître d'Ecole*, etc.

Lemaître, François Elie Jules (*b.* 1853), a French poet and dramatist, born at Vennecy, Loiret. From 1875-79 he was professor of rhetoric at the Lycée of Havre, and from 1879-81 professor at the Ecole des Lettres, Algers. In 1880 he first came to the notice of the public with a small volume of verse, entitled *Les Médaillons*, subsequently followed, in 1882, by *La Comédie après Molière*, and in 1883 by *Petites Orientales*. In 1884 he held a professorship at Grenoble, which, however, he soon abandoned, and devoted himself exclusively to literary work. In 1895 he was elected a member of the French Academy. Besides the works already mentioned he has published: *Les Contemporains; Impressions de Théâtre*, chiefly literary essays; *Les Rois, Sérénus, Myrrha, Contes en marge des vieux livres* (fiction); and the plays: *Revoltée; Les Rois; Le Pardon; L'Aînée; La Massière; Bertrade*, etc.

Le Mans, *see* MANS, LE.

Lemberg, the cap. of Galicia, Austria-Hungary, 365 m. E.N.E. of Vienna, in a deep valley and picturesque district. The seat of a Roman Catholic, Armenian, and United-Greek archbishop. L. was founded in 1259, and is an important military station. Its principal manufs. are machinery, matches, candles, woollen and cotton goods, etc., and the trade is largely in the hands of the Jews. Pop. 206,574 (over 50,000 Jews).

Lemercier, Jacques (*c.* 1585-1660), a French architect and sculptor, born at Pontoise, died at Paris. He went to Rome in 1607, remaining there till 1620, when he returned to France and was patronised by Richelieu, becoming architect to Louis XIII., and being put in charge of the Louvre and the Tuileries. In 1629 he built the Sorbonne and the Palais-Cardinal, and then succeeded Mansard as director of the works of the Vale-de-Grâce. In 1653 he built the church of Saint-Roch in Paris, and later the churches of Reuil and Bagnolet.

Lemgo, a tn. in the principality of Lippe, Germany, 6 m. N. of Detmold. Manufs. meerschaum pipes, leather, linen, etc. Formerly one of the Hanse towns. Pop. 9966.

Lemma (Gk. λέμμα, a thing received or taken for granted), a mathematical term used to describe a proposition introduced to prove another proposition, but otherwise disconnected from the general sequence. The word is not often employed at the present day.

Lemming, a small rodent, belonging, like the short-tailed English field mouse and the water-rat, to the subfamily of voles (*Arvi colinæ*), which is part of the family Muridæ, in the order Rodentia. Its zoological name is *Myodes lemmus*. It has brownish-yellow fur, a short head, short, partially-concealed ears, and a very short tail. In length it is about 5 in., and it has a blunted muzzle, black beady eyes, and dark brown or black spots on its back. Ls. abound in the plateaux above the pine belt in the mountains of Norway and Sweden. They feed on grasses, lichens, and shoots of dwarf birch, and are never carnivorous. Their nests, which are built of straw and lined with hair, are hidden in the grass or under stones, and are inhabited by five young at a time; the breeding is at least biennial. At periods varying from five to twenty years armies of these restless little animals march seawards, causing great destruction in their path, and drawing after them a host of eagles, wolves, foxes, and other predatory beasts. During these extraordinary migrations, which last from one to three years according to the distance to be traversed, they only travel by night. Thousands die by the way, and certain death awaits those who at the journey's end fearlessly plunge into the open sea.

Lemniscate (Lat. *lemniscatus*, ribboned), a curve invented by Jakob Bernoulli, occurring in many mathematical problems. It may be defined as the locus moving so that the product of its distances from two fixed points is constant and equal to the square of half the distance between those fixed points. *See* Brocard, *Notes de bibliographie des courbes géometriques*.

Lemnos, or **Limnos**, an island of the Grecian archipelago, midway between Mt. Athos and the coast of Asia Minor. It is of irregular form and hilly, and presents volcanic formations. It produces grain, oil, wine, fruits, and tobacco, and in former times the celebrated Lemnian earth (*q.v.*) was exported. It was at one time a possession of Athens. The chief port and town is Kastro on the W. coast. In 1657 it was taken by the Turks. Area 180 sq. m. Pop. about 27,000, principally Greeks.

Le Moine, Sir James Macpherson (*b.* 1825), a Canadian author, was knighted in 1897 on account of his literary attainments; born at Quebec. Amongst his chief publications are

his *L'Ornithologie du Canada*, 1862; *Les Pecheries du Canada*, 1862; *Quebec Past and Present*, 1876; *Picturesque Quebec*, 1882; *Canadian Heroines*, 1887; *Legends of St. Lawrence*, 1898, and *The Annals of the Port of Quebec*, 1901.

Lemoinne, John Emile (1815-92), a French journalist, born in London. In 1840 he became editor of the *Journal des Débats*, writing on English and other foreign questions. In 1875 he was elected to the French Academy, and life member of the Senate in 1880. He was a frequent contributor to the *Revue des Deux Mondes*, and is best known by his *Etudes critiques et biographiques*. He died in Paris.

Lemon, a valuable fruit produced by *Citrus Limonum*, a sub-tropical tree or shrub, and its many varieties. L. culture is the main industry in Sicily, but in many other districts with suitable climates the fruit is grown on a large scale, including California and Rhodesia. Like other citrus plants, the L. grows well on greenhouse walls, and the fruit being ripened on the tree, is greatly superior to imported fruit which has been gathered before the flavour could mature. The L. is distinguished from the citron by its thin rind, and is longer and less knobbed at the tip. The lime (*q.v.*) is more globular.

Lemon, Mark (1809-70), an author, wrote novels, farces, and melodramas, and was a prolific contributor to many periodicals. He edited the *Family Herald* and *Once a Week*, but is best known as one of the founders of *Punch*, over the destinies of which he presided from its birth in 1841 until his death. As editor of *Punch* he was the right man in the right place, and he surrounded himself with such valuable supporters as Thackeray, Jerrold, Leech, Keene, and Tenniel.

Lemonade, a beverage obtained by extracting the juice of fresh lemons, mixing with water, and sweetening. It quickly allays thirst, and is useful in febrile and inflammatory complaints, especially when iced. Aerated water flavoured with lime juice, tartaric acid, or essence of lemons is also called L.

Lemon Sole, or **Smear Dab**, is the popular name of *Pleuronectes microcephalus*, a species of flat fish belonging to the teleostean family Pleuronectidæ. It is found from the Bay of Biscay to the N. coasts of Europe, and is widely consumed, its flesh, however, being inferior in flavour and firmness to that of *Solea vulgaris*, the common sole, a member of the same family. The L. S. has both eyes on the right side, the dorsal fin commencing above the eye; its skin is smooth and of a brownish-yellow colour, with light and dark spots.

Le Moyne, Charles Sieur de Longueuil (1626-83), a Canadian explorer, born in Normandy. First served in the French army, and then emigrated to Canada, where he became interested in colonisation. Lived for a time among the Hurons and obtained from them a concession to rebuild the fort at Niagara, which work he was engaged on when he died. His son *Charles* (1656-1729) was at the defence of Quebec in 1690. He was made a baron and governor of Montreal, 1700, and commandant-general of Canada, 1711.

Lemoyne, François (1688-1737), a French painter, born at Paris. Studied under Galloche, and in 1711 carried off the Prix de Rome, with his picture, 'Ruth and Boaz.' In 1718 he became an academician. His title to fame rests chiefly on the decoration of the vault of the 'salon d'Hercules' at Versailles, 64 ft. in length, and containing 142 pictures of great merit.

Lemprière, John (*c.* 1765-1824), an English classical scholar, born in Jersey, Channel Islands. He took orders and became headmaster of schools in Abington and Exeter, and later held two livings in Devonshire. Best known as the author of the classical dictionary, *Bibliotheca Classica*, founded on Sabatier's *Dictionnaire des Auteurs classiques*. Also wrote a *Dictionary of Universal Biography*.

Lemur, or Ghost, figures in Roman superstition. The 'Lemures' were evil spirits who wandered about in search of mischief: they were thus distinguished from the 'Manes,' or 'spirits of the dead,' by their wicked intent. The Romans sought to appease them during the festival of the Lemuria, which was held annually on May 9, 11, and 13. The name, so they said, was a corruption of Remuria, which referred to Remus, Romulus' brother, being so called because the purpose of its celebration was the satisfaction of his shade. During the festival no man might marry, and all shrines and temples were closed. Ovid describes in his *Fasti* the curious rite which the paterfamilias performed. Rising at midnight he traversed his house with bare feet and washen hands, and nine times spat a black bean from his mouth, and with backward glance cried, 'Thus I redeem me and mine.' The belief was that the evil 'lemures' either picked up the beans, or else entered into them. Then the father washed again, beat kettles, and clanged his brazen vessels, and nine times repeated the courteous request, 'Manes exite paterni' (Shades of

our fathers, depart). It was necessary to exorcise these ghosts, as they alarmed men of good, and haunted those of evil conscience. Some have held that there were elements of ancestral worship in this rite.

Lena, formerly **Pola de Lena**, a tn. in the prov. of Oviedo, Spain, 18 m. S. of Oviedo. Pop. (com.) 38,000.

Lena, the largest riv. in Siberia, and one of the principal rivers of Asia. It rises in the Baikal Mts., and enters the Arctic Ocean by numerous mouths. Its total course is 2700 m., the whole being in Russian dominions. Its chief tributaries are the Vitim, Olekma, Aldan, and Vilyu. Total length of navigable waterways 7110 m., nearly 5000 m. utilised by steamers.

Lenau, Nikolaus (1802–50), pen-name of Nikolaus Niemsch von Strehlenau, a Hungarian poet, born at Czatad, Hungary. He first studied law and medicine at Vienna, but was unable to settle down to a profession and began to write verses. His first published poems appeared in 1827, and in 1832 he published a volume of poems dedicated to the Swabian poet, Gustav Schwab. In 1832 he went to America in search of change, but returned to Vienna the next year, and lived alternately in that city and Stuttgart, where he came into close touch with Uhland, Kerner, and Mayer. Besides his *Schilflieder*, and short lyric effusions, L. wrote *Faust*, *Savonarola*, and *Die Albigenser*. His *Sämtliche Werke* were published by A. Grün in 1855. *See* Lives by Schurz and Frankel.

Lenbach, Franz (1836-1904), the chief German portrait painter of the 19th century, born at Schrobenhausen, Upper Bavaria. He became a pupil of Piloty, whom he accompanied to Italy, where he studied the old masters. On his return to Munich, he soon recognised that his chief strength lay in portraiture, and at Rome, where he spent many of his winters, he soon became the centre of a brilliant artistic circle. His best-known portraits are those of *Bismarck*, *Moltke*, *Gladstone*, *Wagner*, Strauss, and Liszt. He excelled especially in characterisation, and his conception was always true.

Lencas, *see* CHONTALS.

Lenclos, Anne, or **Ninon de** (1616-1706), a Parisian courtesan, famed equally for her beauty and intellect, born in Paris. She had a succession of lovers, including Saint-Evrémond, Gaspard de Coligny, Rochefoucauld, and Condé, but in spite of these liaisons was greatly admired for her wit and intellectual culture, and soon became the leader of society in Paris and the friend of Mme. de Maintenon, Mme. de la Fayette, and Voltaire. *See* Helen K. Hayes, *The Real Ninon de l'Enclos*, 1908; and Mary C. Rowsell, *Ninon de l'Enclos and her Century*, 1910.

Lenczyca, a tn. in the gov. of Kalisz, Poland, Russia, situated 80 m. W.S.W. of Warsaw. Pop. 9000.

Lendinara, a fortified tn. of the prov. of Rovigo, Venetia, Italy. Pop. 7500.

Lenfant, Jacques (1661-1728), a minister and French writer, born at Baroches. He was ordained to the Protestant church in Heidelberg about the year 1684. Among his many writings, principally on theology, may be mentioned his edition of the N.T. in French, which he annotated and published in collaboration with Beausobre.

Leng, Sir John (1828-1906), an English journalist, born at Hull. In 1851 he became editor of the *Dundee Advertiser*, which he soon raised to a high rank, both as regards local and imperial affairs. In 1870, L. was one of the first Scottish newspaper proprietors to set up an office in Fleet Street in direct telegraphic communication with Dundee, and he was the first to attempt illustrations in a daily paper. In 1858 he founded the *People's Journal*. In 1877 he started the *Evening Telegraph*, amalgamated in 1900 with the *Evening Post*. His publications include: *America; Letters from India to Ceylon; Glimpses of Egypt and Sicily; Scottish Banking Reform; Home Rule all Round; Nationalisation, the Dream of the Labour Party*, etc.

Lennep, a tn., Rhenish Prussia, on the R. Lennep, 8 m. S.E. of Elberfeld. It manufs. textile fabrics, iron and steel wares. Pop. 13,125.

Lennep, Jacob van (1802-68), a Dutch writer, born at Amsterdam. He studied law and was called to the bar, but during the time that he was practising as a barrister he was also writing poems. On account of his novels he won for himself the title of 'the Walter Scott of Holland.' Among his works are *Het Dorp aan die Erenzen . . ., 1831*; *De Picegzoon*, 1833; *Der Rose van De Kama*, 1836. *See* N. Beets, *Mr. J. van Lennep*, 1906.

Lennox, an ancient Scottish territory, comprising the ancient sheriffdom of Dumbarton, and large portions of the shires of Stirling, Perth, and Renfrew. The earldom of L. was first conferred on Alwin, probably a Celt by descent, about 1175. The title passed in 1473 to his descendant, Sir John Stewart, Lord Darnley. Matthew, second earl of this Stewart line, fell on Flodden Field, and Matthew, fourth earl, married Margaret Douglas, daughter and heir of

the Earl of Angus and Margaret Tudor, sister of Henry VIII.; Matthew's eldest son, Henry, married Mary Queen of Scots. After the murder of Darnley (1571), Matthew worked f the abdication of Mary, and in 157 his grandson being recognised James VI. of Scotland, he was appointed regent. On his death (1571) the title passed to James, who conferred it on his uncle, Charles, the younger brother of Darnley, who left an only daughter, Lady Arabella Stewart. In 1580 James conferred the title on his cousin, Esmé Stewart, grandson of the third earl, and in the following year Esmé was created Duke of L. He was succeeded by his son Ludovic, who was created Earl of Richmond (1613), and Earl of Newcastle, Duke of Richmond (1623) in the English [illegible] his dying without mal [illegible] his titles passed to his [illegible] On the death of the [illegible] Charles, the L. dukedom devolved upon Charles II., who bestowed it on his illegitimate son, Charles Lennox (by the Duchess of Portsmouth), who sold the lands to the Marquis of Montrose in 1702. See *Scots Peerage*, vol. x., and William Fraser's *The Lennox*, 1874.

Lennox, Charlotte (*née* **Ramsay**) (1720-1804), a British writer, born in New York. She came to London in 1735, and after a brief period on the stage, earned her living by writing. Her chief books are: *The Female Quixote*, 1752; *Life of Harriot Stuart*, 1751; and *Shakspear Illustrated; or The Novels and Histories on which the plays are founded*, 1753-54.

Lennox Hills, [illegible] include the Can [illegible] blane Hills, and [illegible] are situated between Dumbarton and Stirling. They rise to 1894 ft. in the peak of Earl's Seat.

Lennoxtown, a vil. of Stirlingshire, Scotland, 11 m. N.E. of Glasgow by rail. It has calico-printing, alum and bleach works, and coal mines. Pop. (1911) 2700.

Leno, Dan (1861-1904), the stage name of George Galvin, an English comedian, born at Somers Town. His parents were travelling entertainers, known as Mr. and Mrs. Wilde, and as a child he was trained as an acrobat and dancer. With his brother he won the world's championship in clog-dancing at Leeds in 1880, and after appearing in pantomime at the Oxford and Surrey Theatres, he was engaged for Drury Lane by Sir Augustus Harris. In 1900 he was transferred to the Pavilion Music Hal[illegible] before the [illegible] Wood's *Da*

Lenormant, François (1837-83), a French archæologist, born in Paris. He won the prize in numismatics at the Académie des Inscriptions with [illegible] *ces Monnaies des* [illegible] was appointed After travelling in Greece, he accepted the professorship of archæology at the Bibliothèque Nationale (1874-83). His chief works are: *Les Origines de l'histoire d'après la Bible* (3 vols.). 1880-84, and *Les Antiquités de la Troade*, 1876.

Le Nôtre, André (1613-1700), a French landscape gardener. Louis XIV., who heard of his skill, gave him a commission to lay out the gardens of Versailles, the Trianon, the terrace of St. Germain, and the gardens of Fontainebleau, St. Cloud, [illegible] antilly. He was also the de[illegible] of St. James's Park and Ken[illegible] Gardens in England, and Greenwich Park. In addition to these he visited Rome and laid out the gardens of the Quirinal and Vatican.

Lens, a tn. of Pas-de-Calais, France, 9 m. N.N.E. of Arras. It possesses a rich coal-field, and is also engaged in sugar-refining and other industries. Pop. 27,800.

Lens, in optics, a portion of a refracting medium bounded by two curved surfaces, or by one plane surface and one curved surface. Ls. are usually made of glass, their surfaces are usually portions of spheres, and for most practical purposes have a small thickness in proportion to the radius of curvature. They may be divided into two classes, convex or [illegible] Ls., and concave or [illegible] Ls. The former are the centre than at the edges, and may be subdivided as double-convex, with two convex surfaces; plano-convex, with one flat and one convex surface, and convexo-concave, otherwise called converging meniscus. Diverging Ls. may be subdivided into double-concave, plano-concave, and concavo-convex, or diverging meniscus. The action of a L. may be explained by reference to the effect of a prism on transmitted light. When a ray enters a prism it is refracted towards the base, and the greater the angle of the prism, the greater is the amount of that deviation. Now a convex L. may be considered as made up of portions of prisms whose angles become greater the farther they are away from the centre. The result is that parallel rays falling upon the L. on one side are made to converge towards the centre and ultimately meet at a point which is called the focus of the L. Thus it is that a burning-glass concentrates the

rays of the sun upon a small area; and on the other hand, that rays proceeding from a small area, such as the flame in a lantern, are made to proceed approximately parallel when they are transmitted through the lantern glass. For the purpose of finding the focus of a L. of given curvature, the paths of the rays may be represented by straight lines. A ray which travels along the axis of the L. is not deviated, because it meets the surface at right angles. There is one point on the axis such that if the path of a ray within the L. pass through that point, the ray proceeding from the L. is parallel to the incident ray. That point is called the optical centre of the L., and the incident and emergent rays are parallel, because the amount of deviation towards the centre is exactly equal to the amount of deviation away from the centre on emerging from the L. When parallel rays fall upon one surface of a convex L., they converge to a point on the axis which is called the *principal focus*. The distance of the principal focus from the optical centre is called the *focal length*. In the case of a concave L., rays which are parallel to the axis are made to diverge, but if their directions are produced backwards, they meet at a point on the axis. This point is called the *virtual focus*, since the rays do not actually pass through it, and the focal length is measured from the virtual focus to the optical centre, and is called negative. If rays proceed from a point on the axis to the surface of a convex L., their direction is altered so that they either converge to another point on the axis, or appear to diverge from another point. That point is called a *conjugate focus*, and in the former case it is real, in the latter it is virtual. It is obvious that conjugate foci are interchangeable. The effect of looking through a L. therefore depends upon the distance of the eye and of the observed object from the L. If the eye is in front of

sider the rays to be originally parallel. On the other hand, if the rays are diverging as they meet the eye, a certain area of the retina receives the rays from a small area in front of the L., so that the object appears magnified. The simplest form of magnifying glass is a convex L., but it must be placed at a distance from the object less than its focal length.

Lent (O.E. *lencten*, spring; M.E. *lenten*, *lente*), in the Christian Church, the period of fasting before Easter. In the time of Irenæus, a rigid fast was observed for forty hours before Easter morning. In Alexandria, during the 3rd century, Christians fasted throughout Holy Week, and by the 4th century the period had extended to about forty days. Hence in Rome it was called 'Quadragesima,' from the Sunday which was the fortieth day before Easter. In the 8th or 9th century, it was determined that the fast should begin on Ash Wednesday, between which and Easter Sunday are forty days, excluding Sundays, on which fast is not observed. The fourth Sunday in L. used to be known as 'Mothering Sunday,' for on that day young servant maids were allowed a holiday to visit their mothers, and usually took with them a rich *simnel* cake. The fifth week is called *Passion Week;* the sixth, beginning with Palm Sunday, is *Holy Week*.

Lentils, the well-known seeds of a small branching plant with pale blue flowers (*Ervum lens*). Their shape has given the name to the glass lens. There are numerous varieties and all are of high food value. The plant is hardy in Great Britain, but is rarely cultivated. In all southern parts of Europe, and in Egypt and India, the crop is an important one.

Lentini, a tn. in the prov. of Syracuse, Sicily, 1¼ m. S.E. of Lake Lentini. Its inhabitants are engaged in the manufacture of earthenware. Pop. 17,200.

Lenz, Jakob Michael Reinhold (17[illegible]92), a German poet, is a typical representative of the 'Sturm-und-Dr[illegible] period. His earliest efforts at[illegible] position were sacred songs [illegible]er-style of [illegible] theology [illegible] was a vil[illegible] Strassbu[illegible] of Salzm[illegible] the frien[illegible]sionate *Lande* were inspired by Friedr[illegible] Brion, whom Goethe also loved. [illegible]sanity overtook the unfortunate m[illegible] is romantic comedies *D*[illegible] 1774; and *Die Soldaten* show a lamentable de-restraint.

Leo (The Lion), one of the twelve zodiacal constellations of which it is the fifth 'sign,' the sun entering it on about July 21. It is surrounded by Ursa Major, Leo Minor, Cancer, Hydra, Sextans, Virgo, and Coma Berenices. The constellation can be easily found by drawing a line through the Pole Star, and the lowest (γ) of the four in the Great Bear. This line intersects L. at the bright star Denebola (β Leonis). The two brightest objects in the constellation are Regulus (α Leonis) (first magnitude) in the handle

of the well-known 'sickle,' and the blue star Deneb (magnitude 2·2).

Leo, the name of thirteen popes:

Leo I. (440-461), probably a Roman by birth, is first definitely heard of as a deacon in 429 but possessing great influence, and while in Gaul on a diplomatic mission was chosen to succeed Sixtus III. He was foremost in checking the heresies of Manichæism, Priscillianists, and historianism, and in establishing the prime authority of the Bishop of Rome and the authority of the law of the Bishop of Rome, and the authority of the law of its apostolic see. He formulated the doctrine of the union of the human and divine persons in one Jesus Christ, in a letter, intended for the 'robber' synod of Ephesus but adopted at the council of Chalcedon (451). Leo turned back the Huns under Attila (452) and saved the plunderlug of the ancient basilicas of Rome from the Vandals under Genseric in 455. He was succeeded by Hilarius.

Leo VI. (882-903), a Sicilian

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see of Rome over that of Ravenna. He was succeeded by Benedict II.

Leo III. (795-816), a Roman by birth, succeeded Adrian I., sent the keys of Rome to Charlemagne in acknowledgment of his power. He was pursued by attacks of violence, overcame charges by the nephews of his predecessor, and was acquitted by Charlemagne, to whom he was strictly subordinate. He died after The later outbreak against him after *plays* magne's death.

Leo *IX.* (1049-54), an Alsatian; include e was Bruno, and he belonged blane H le family related to the Emare situ nrad. In 1026 he was Bishop Stirling and was selected to succeed peak rus II. at Worms, a choice con-

Le in Rome, whither he journeyed Scot pilgrim with Hildebrand, afterra ds Gregory VII. In the synod of a 49 he renewed the rule of celibacy n the clergy which, with his suppression of simony, marked his reforming zeal. He held many synods and travelled much. He was crushingly defeated by the Normans near Civibella in 1053, and was a captive at Benevento. He was succeeded by Victor II.

Leo X. (1513-21) was Giovanni, son of Lorenzo de' Medici, the Magnificent, born at Florence in 1475. Educated by the first scholars of the new learning, he was made a cardinal when only fourteen, though only fully admitted in 1492. He retired to Florence at the election of Alexander VI. till the expulsion of the Medici from Florence. On the restoration, he, as head of the family, governed the state till his election to the papacy on the death of Julius II. The first part of his pontificate was taken up t

Emperor

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Venice, and for restoring peace to Europe in view of a crusade against the threatening advance of the Turks. The grants of indulgences forced on the revolt against the abuses of the Church which culminated in the Reformation; Leo's failure before the spread of the revolt in Germany and the N., was mainly due to his absorption in the pressing forward of the temporal claims of the papacy in Italy, and his diplomatic intrigues for these ends which were subservient to his lifelong policy of increasing the power of his family, the Medici. He died suddenly after the news of the success of his plans. He was a great patron of the arts and literature, and during his pontificate Rome was the centre of learning and art.

Leo XI. (1605), Alessandro de' Medici, only reigned a month; succeeded by Paul V.

Leo XII. (1823-29), born near Spoleto in 1760; was secretary to Pius VI.; engaged in diplomatic missions in Europe and with Napoleon; cardinal-priest in 1816, and cardinal-vicar, 1820. He was elected pope on the death of Pius VII., being expected to live a very short time. He was a distinct reactionary, suppressing all forms of political movement and societies, and establishing an elaborate system of spies. He was succeeded by Pius VIII.

Leo XIII. (1878-1903), Givacchino Pecci, born at Carpineto in 1810, of a Sienese family, his father having served in the Napoleonic armies; educated by the priests at Viterbo and at Rome; entered the Accademia dei Nobili Ecclesiastie in 1832; ordained priest in 1837. He received appointments at Benevento and Perugia, in which he displayed ability and sympathy with social reform. He was made bishop in 1843, and was engaged in diplomacy in Brussels till 1846, when he was appointed Archbishop of Perugia. Here he remained working assiduously for social and educational reform, restoring churches, etc. In 1853 he was made a cardinal by Pius IX. He strenuously opposed the loss of the temporal power and the other results of the unification of Italy, so far as they affected the pontificate. In 1877 he became Cardinal Camerlengo, and was elected pope in 1878 by a large majority of

votes, possibly in the expectation of a short papacy in view of his age. He reorganised the *curia* on strictly economic lines, enforced a stricter theological training in accordance with the doctrines of St. Thomas Aquinas, especially in his encyclical *Æterni Patris*, threw open the Vatican library and archives to scholars, and encouraged the study of church history. His encyclical *Rerum* [illegible] (1891), dealing with the co[illegible] the industrial classes, was c[illegible] to be socialistic in tendency, and twenty years later was reversed in his directions against the Christian democratic movement in Italy. In these matters and in questions of the authority of states, of liberty, etc., his encyclicals consistently propounded the necessity of the direction in every sphere of life by the Church. He reproved the Plan of Campaign movement in Ireland without success, and had to deal with the question of 'Americanism' in the U.S. His commission to inquire into the validity of Anglican orders led to a definite and final condemnation from the Roman Catholic point of view in 1896. Faced at his entry to the papacy with complete isolation from the European Powers, Leo worked to establish friendly relations with all, except the crown of Italy, which made him, as Pius IX., a 'prisoner of the Vatican.' His plan to bring the French Catholics to support the republic can hardly be said to have succeeded. He died a few months after the celebration of his jubilee.

Leo I., Flavius (457-474), Emperor of Constantinople, born in 400, in Thrace, and was crowned by Anatolius on the death of Emperor Marcianus. He adopted stern measures against the Eutychians, and defeated the Huns in Dacia. While on an expedition to recover part of Africa, his fleet was destroyed by the Vandals. Towards the end of his reign he suppressed a rising of Goths, and, on his deathbed, left his crown to his grandson, Leo.

Leo III., the Isaurian (717-740), Emperor of the East, was born about 680 in the Syrian province of Commagene. In 717, refusing to acknowledge the usurper Theodosius III., he was elected emperor by the army, and during the first year of his reign defeated the Saracens who had laid siege to Constantinople. He passed legislative reforms on religious matters, and by issuing edicts against the image-worshippers gave rise to the great iconoclast controversy. He transferred Southern Italy, Greece, and Macedonia from the papal diocese to the patriarchate of Constantinople, with the result that the province of Ravenna separated from the empire. *See* Gibbon's *Decline and Fall* (ed. by Bury), 1896.

Leo, Leonardo (1694-1744), an Italian musical composer, born near Brindisi. While studying at Naples, his sacred drama, *L'Infedeltà abbattuta*, was performed in 1712 by his fellow students. Among his works are: *Pisistrato* (an opera), 1712; *La* [illegible] 1723; and *Amor vuol* [illegible] Comic operas: [illegible]d *L'Olimpiade*, 1737.

Leo Africanus (Alhassan Ibn Mohammed Alwazzan), a Berber traveller of the 15th century. He travelled extensively in Northern and Central Africa and Asia Minor, and, while returning from Egypt, was captured at sea by pirates and taken to Rome, where he was converted to Christianity. His account of his journeys, written in Italian, was published in 1550 by Ramusio.

Leo Allatius, *see* ALLATIUS, LEO.

Leoben, a tn. in the prov. of Styria, Austria, 26 m. N.W. of Graz, with iron mines close by. Here in 1797 was signed a peace between France and Austria. Pop. 11,504.

Leobschütz, a tn. in the prov. of Silesia, Prussia, on the Zinna. It manufs. hosiery, glass, and machinery. Pop. 13,083.

Leochares (*fl.* 350 B.C.), an eminent Greek sculptor. He was a pupil of Scopas, with whom he worked on the Mausoleum. With Lysippus he executed a group in bronze representing Alexander at a lion hunt. He also made busts of Alexander, statues of Zeus, Ares, and of the family of Philip of Macedon. All his works are lost, but the statuette in the Vatican of 'Ganymede carried away by an Eagle' is probably a copy of his work on this subject.

Leo Hebræus, first son of Abarbanal (*q.v.*).

Leominster: 1. A tn. in the co. of Hereford, England, 12 m. N. of Hereford, on the Lugg. It trades chiefly in cider and hops. This town dates back to very early times. Pop. (1911) 5737. 2. A tn. in Worcester co., Massachusetts, U.S.A., 40 m. W.N.W. of Boston. Its chief manufs. are combs, pianos, and papers. Pop. (1910) 17,580.

Leon: 1. A prov. of North-Western Spain. The Cantabrian Mts. hem it in to N. and W., and in this direction the province itself is highland, whilst the plains of the S. and E. are part of the Castilian plateau. The Montañas de Leon separate the basins of the Minho and the Douro, and the upper Sil waters the valley, El Vierzo, in which vines, corn, and fruit grow in plenty. There is some mining of coal and iron, but agricul-

ture and sheep-rearing are the chief source of wealth. Area 5936 sq. m. Pop. 394,119. 2. The cap. of the prov. of Leon, Spain. It is perched on a hill (2631 ft.), and is made up of two distinct quarters, the old and ecclesi-

and manufactories of machinery, etc. Pop. 17,000. 3. Formerly the cap. of Nicaragua, Central America, 50 m. N.W. of Managua, the present capital. Tanning and the manuf. of textile goods and boots and shoes are the staple industries. The ornate Renaissance cathedral (completed in 1774) and the many handsome public buildings lend dignity to the town. Pop. 63,000. 4. A thriving industrial centre, 30 m. W. by N. of Guanajuato, in the province of Guanajuato, Mexico. Pop. 65,000.

Leon, Fray Louis de, *see* PONCE DE LEON.

Leonardo da Vinci (1452-1519), an Italian painter, sculptor, engineer, and architect, born at Vinci, near Empoli. His father was Ser Piero da Vinci, a Florentine lawyer, and his mother (Catarina) was of humble birth and unmarried. The child was brought up in his father's household, and from his earliest years showed the greatest promise for the future. Among the first pursuits this genius set his hands to were music, modelling, and drawing. His father placed him under the tuition of Andrea del Verrocchio, and in his studio L. worked with Sandro Botticelli and Pietro Perugino and other less famous men, such as Lorenzo di Credi. If tradition is to be believed he was soon able to teach his master. Verrocchio allowed his pupil, then about eighteen, to paint a kneeling angel in the picture of 'Christ's Baptism,' and the result was such that Verrocchio knew that he could teach L. nothing more. The picture is now in the Academy at Florence. In 1472 he was enrolled in the painters' guild at Florence. Somewhere about 1477 Lorenzo the Magnificent appears to have taken him into special favour, and under his protection L. worked independently until 1483. During this time he was filled with projects of all kinds of architecture, hydraulics, mechanics, and engineering, also studying and observing every branch of science. His art was not the reviving of lost glories, it was the finding of fresh revelations in the living and of often obscure existing things. Thus his picture on a wooden shield, when he was quite young, cost him the minute study of insects and reptiles from which he created a dragon which terrified and delighted all who beheld it. So later his picture of the 'Medusa' was exceedingly terrible, yet very beautiful, depicting loathsome things blended with a great and tragic loveliness. From Florence he went to Milan, about 1483, and here, under the protection of Ludovico

various works,
monument to
d the world-

famous picture of the 'Last Supper,' in the refectory of the convent church of Sta Maria delle Grazie. This masterpiece has been the victim of many experiments; the original work suffered from the damp wall on which it was painted, the picture became blistered and mildewed, and after many years Cavaliere Cavenaghi has restored to us as far as is possible the wonderful gift to posterity left by L. From Milan he went to Venice, and while commencing various pictures, spent half his time in gigantic plans of engineering work. In 1502 he travelled as chief engineer to Cæsar Borgia, mapping out the country and planning and arranging canals, harbours, and various restorations, but in 1503 he was back again in Florence. His next work was the decoration of the council hall of the Signory; Michael Angelo was also commissioned to produce a battle scene on another wall of the same apartment. His cartoon was finished in two years and was exhibited with that of Michael Angelo. The violent action and extraordinary vitality of both these great works moved the whole of Florence to passionate admiration. Unfortunately L.'s work was destroyed by an experiment of his own. Raphael, then only nineteen, came to watch these two at work. The portrait of Madonna Lisa, the wife of Zanobi del Giocondo, was finished in 1504; that mysterious, smiling picture was

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In 1506 L. returned to Milan, and later accompanied Francis I. back to France. The last two and a half years of his life were spent at the Castle of Cloux, near Amboise, which had been presented to him. He died on May 2. Only a few of his works have survived, so many were begun and never finished. Among his surviving works are the two pictures of 'Our Lady of the Rocks' in the Louvre and the National Gallery, the latter probably helped out by his pupil Ambrogio; 'St. Anne' and

'John the Baptist,' now in the Louvre, and several studies and drawings at Christ Church, Oxford, Windsor, and elsewhere. A wax bust of 'Flora' was discovered and attributed to L. in 1909 and bought as such by the Kaiser Friedrich Museum in Berlin. It is generally assumed that it is by R. Cockle Lucas, and dates from 1846. *See* Vasari's *Lives;* Edward Macurdy. *Leonardo da Vinci,* in Bell's Great Masters, 1907; Waldemar von Seidlitz, *Leonardo da Vinci,* 1909; *see also* Pater's article on Leonardo da Vinci in *The Renaissance.*

Leonardo of Pisa (Leonardus Fibonacci, or Pisanus), an Italian mathematician who flourished in the 13th century. His *Liber Abaci* attracted the attention of the Emperor Frederick II., to whose court he was admitted. His other works are *De practica geometriæ,* 1220; *Liber quadratorum,* 1225; and *Flos.*

Leoncavallo, Ruggiero (*b.* 1858), a musical composer, born at Naples. His best known work is his opera *I Pagliacci,* 1892, his other works being *Chatterton,* and *La Bohême.*

Leonessa, a tn. in the prov. of Aquila, Italy, on the Corno. Pop. 8000.

Leonforte, a tn. in the prov. of Catania, Sicily, 45 m. N.W. of the town of Catania. It trades in cereals, oil, and wine. Pop. 16,000.

Leonidas (*c.* 489-480 B.C.), King of Sparta, in succession to his half-brother Cleomenes. In 480 he marched with his troops against the invading army of Xerxes, King of Persia, and posted his men, numbering 5300, by the narrow pass of Thermopylæ. According to the story, a Greek, Ephialtes, turned traitor and showed the Persians a track to the rear of the Spartan army. Leonidas was overcome and fell in the fight, his head being afterwards cut off, and his body crucified.

Leonid Meteors, *see* METEORS.

Leonine Verses, irregular forms of verse in which the two syllables of the foot immediately preceding the cæsura are made to rhyme with the two final syllables of the line. Examples may be found in Ovid and other Roman poets; *e.g.* 'Diluitur *posito* senor hora *mero*' (*Heroides,* xix., line 14), but they became popular in the middle ages, through the influence of the minstrels, who in the Latin verses sacrificed quantity to accentuation. This form has been used in several English poems, and with notable success in Shelley's *Cloud*—'I am the *daughter* of the earth and *water.*'

Leonnatus, a Macedonian, served in the bodyguard of King Philip, and afterwards became a distinguished general in the army of Alexander the Great, Philip's son and successor. Alexander, remembering how two years previously Leonnatus and Peuccstes had saved his life in battle, gave the former a golden crown at Susa in 325 B.C. On his master's death (323) Leonnatus became satrap of Lower Phrygia. He died fighting whilst on his way to Antipater, his friend, who was shut up in Lamia, Thessaly.

Leontini, a tn., Sicily, *see* LENTINI.

Leontius (*fl.* 6th century), a theological writer who was born at Byzantium, and became a monk of the monastery of St. Saba, Jerusalem. He wrote *Contra Nestorianos, Contra Severum,* and other polemical treatises. See *Life* by J. P. Junglas (1908).

Leontodon Taraxacum (Dandelion), the common composite flower. The leaves when well grown and blanched make a good salad in the winter and early spring.

Leontopodium (Edelweiss, or Lion's Foot), the popular white or grey leaved herbaceous perennial with yellow flowers. It is valued chiefly because of its Swiss associations. It is quite hardy and easily grown from seed, but needs protection from winter rains.

Leopard (*Felis pardus*), a fierce bloodthirsty carnivore found throughout the African continent and S. Asia, though its numbers are rapidly diminishing. Its colour is pale fawn to rufus buff, and the coat is covered with large rosette-shaped spots. It varies in length from 3½ to 4½ ft., and is smaller than the lion or tiger, to which it is closely allied, while it differs from them in climbing trees. The Black L. of Java was formerly regarded as a separate species, but is now agreed to be a case of melanism. The L. seems to kill for the love of slaughter, and often attacks women and children.

Leopardi, Giacomo, Count (1798-1837), an Italian poet, born at Recanati, of a poor but noble family. He devoted his early years to an unaided study of the classics, with remarkable success. Dissatisfied with his home life, he went to Rome in 1822, hoping to find a more congenial environment, but he suffered an intense disappointment; and in spite of the friendship formed there with Bunsen and Niebuhr, he returned in the following year to Recanati. Here he remained for ten years, except for short holidays at Florence, Pisa, Milan, and Bologna; at the last-named town his brilliant classical scholarship earned for him a commission to edit Cicero and Petrarch (1825). The last four years of his life (1833-37) were passed at Naples. L. presents a most fascinating study in

psychology and temperament; he is akin in various ways to Heine and d'Annunzio. A sensitive soul, capable of idealism, but embittered by disillusionment and a martyr to ill-health, loneliness, and privation, he stands out as the poet of despair; the growing pessimism of his mind is to be clearly traced in his works. His despondency finds its most poetic expression in his *Bruto Minore*, 1824; in 1827 appeared his *Operette Morali*, for the most part a series of imaginary dialogues, which have brought him the same high degree of recognition as a master of prose that his *Idilli* and *Canzoni* have brought him as a poet; whilst his *Epistolario* in particular is one of the most pathetically beautiful works ever penned. As a masterly genus of literary expression he stands in the front rank. The best Italian edition of his works is Ranieri's (6 vols.), Florence, 1845. The chief English translations are: (prose dialogues) Edwardes (1882), Maxwell (1905), and Thomson (1905); and (poems) Townsend (1888), Cliffe (1903), and Martin (1904). *See also* the excellent articles by Dr. Garnett (*Ency. Brit.*, 1911; and *Hist. Ital. Lit.*, 1898), and by Mr. A. H. Cloriston (*Quarterly Review*, Jan. 1913).

Leopard's-Bane, *see* ARNICA.

Leopold, Lake, *see* RIKWA, LAKE.

Leopold I. (1658–1705), Holy Roman emperor, son of Ferdinand III., born in 1640, and became king of Hungary (1655), and king of Bohemia (1656). During his long reign he was engaged in many wars—with Sweden (1660); with the Turks, who, being defeated by Montecuculli at St. Gothard (1664), agreed to the Treaty of Vasvar (1664); with the Protestants of Hungary, whom he suppressed with the aid of John Sobieski, King of Poland, and defeated at Mohacz (1687) and Zenta (1697). He was engaged in three wars with Louis XIV. of France, and towards [illegible], on the death [illegible] (1700), claime [illegible] for his second son, the Archduke Charles, thus beginning the war of the Spanish Succession. See *Life* by Baumstark (1873).

Leopold II. (1790-92), Holy Roman emperor, son of Francis I. and Maria Theresa, born in 1747, and became grand-duke of Tuscany in 1765. He was chosen emperor in 1790, on succeeding to the Austrian hereditary [illegible] is brother, [illegible] re-estab- [illegible] to make [illegible] but was [illegible] the affairs [illegible] his sister, Marie Antoinette, was in danger. In 1792 he concluded the Treaty of Pillnitz with Prussia for the restoration of Louis XVI. of France.

Leopold I., George Christian Frede- [illegible] of the Belgians, Duke of Saxe- [illegible] uncle to Queen [illegible] became cavalry-general under the Russian emperor, Alexander; fought bravely in the battles of Leipzig and Lützen (1814), and afterwards accompanied the allied sovereigns to Paris. The death of his first wife, Charlotte, daughter of George IV., and heir-presumptive to the English crown, after one year of married life, was a great disappointment to him (1817). In 1831 he became king of Belgium, which had just been severed from Holland, having already declined the sovereign power of Greece. His wise and paternal rule soon won him the respect and esteem of his adopted people, and the little kingdom enjoyed both peace and prosperity.

Leopold II., Louis Philippe Marie Victor (1835-1909), King of the Belgians, was the son of Leopold I. From 1846-65, the year of his accession, he served in the army. In 1853 he married Marie Henriette (*d.* 1902), daughter of the Archduke Joseph of Austria. Before his father's death he travelled a great deal in the East, and in Northern Africa. As a king he will be remembered for the lion's part he played in the events which led up to the annexation of the Congo Free State in 1908. Feeling the need of an overseas' expansion for his little country, he formed the Association Internationale Africaine (1876), and proceeded to exploit the almost unexplored regions of the Congo. The commission of inquiry (1904) confirmed the sinister rumours of the torture and barbarous treatment of the natives.

Leopold II., a lake of Central Africa in the administrative dist. of that name in Belgian Congo. Length about 75 m.; greatest width, 30 m.

Leopold, Karl Gustaf (1756-1829), a Swedish poet, born at Stockholm. In 1786 he was made secretary to Gustavus III. and collaborated with him in his works. He afterwards became a member of the Swedish Academy. His tragedies, among which may be mentioned *Odin*, 1822, and *Virginie*, 1822, were valued highly by his contemporaries, and his poems are still looked upon as beautiful.

Leopoldina Railway. This company was formed in 1897, and took over several railways in Brazil, forming them all into one company to be worked under one management. The length of line at present belonging to

this railway is 1651 m. The offices of the company are in Lombard Street, London, E.C.

Leopoldshall, a vil. in the duchy of Anhalt, Germany. It has salt works, and manufs. chemicals. Pop. 6588.

Leopoldville, a trading station in Belgian Congo, W. Africa. It stands on the l. b. of the Congo, near Stanley Pool, and is the cap. of Stanley Pool district. This town, which was founded by Stanley in 1882, is the chief means of communication with Upper Congo, and is connected by rail with Matadi.

Leosthenes, an Athenian general, who was commander of the Greeks in the Lamian War, 323 and 322 B.C. He was killed in a siege before Lamia, after having conquered Antipater.

Leotychides (491-469 B.C.), King of Sparta. In 479 B.C., he was commander of the Greek fleet and distinguished himself as victor at the battle of Mycale.

Leovigild, or Löwenheld (*d.* 586), King of the Visigoths in Spain. He was successful in defeating the Byzantines who dwelt in Andalusia, and was a staunch supporter of Arianism, a doctrine which he maintained till his death. He was also ardent in his persecution of Roman Catholics.

Lepage, *see* BASTIEN-LEPAGE, JULES.

Lepanto, the name of a famous naval battle, fought on Oct. 7, 1571, off the town of Lepanto (Naupaktos) in the Gulf of Corinth between a Turkish fleet of 273 galleys [illegible] Pasha, with the Bey of [illegible] and the Dey of Algiers, and a fleet of 200 galleys, and some heavy and, as it proved, useless galleasses. The allies were commanded by Don John of Austria, representing Spain [illegible] and Naples also sent a force commanded by the Spaniard, Santa Cruz. Pope Pius V. had instigated the league [illegible] blow to the Moslem sea power; the Algerian contingent alone escaping, owing to bad tactics on the part of the Genoese; the Turks are said to have lost 20,000 men, including their principal leaders. The allies lost 8000 with Barberigo. Cervantes lost an arm in this battle.

Lepchas, a race of people who inhabit principally Sikkim and parts of Tibet. The language which they speak, known as Rong, and their customs are closer to the original inhabitants of this part of the country than those of any other race.

Lepidolite is mica of a lilac colour, sometimes violet, found in masses made up of scales containing lithia.

Lepidoptera, the scale winged order of insects, comprising butterflies and moths. It is the scales which give the usually gay colours to the four wings of the perfect insect. L. have a well-marked metamorphosis through the egg, lar[illegible] Most are eas[illegible] other insects, [illegible] and some of the wingless females may be confused. The perfect insect has usually a long spiral proboscis or tongue by which honey may be extracted from flowers. The larva or caterpillar has biting jaws which the perfect insect lacks, and usually casts its skin several times before pupation. The chrysalis stage is almost or quite inert, and in many cases is passed in a cocoon.

Lepidosiren, a genus of dipnoid fishes. *See* DIPNOI.

Lepidus, the name of the famous Roman patrician clan of the Æmilii.

Marcus Æmilius Lepidus, sent as ambassador to Ptolemy, King of Egypt, in 201 B.C. Consul in 187 B.C., he was pontifex maximus, and six times princeps senatus.

Marcus Æmilius Lepidus, consul in 137 B.C., was praised by Cicero for his oratory. His conduct of the Numantine war in Spain was a fiasco.

Marcus Æmilius Lepidus, father of the triumvir, proved a grasping [illegible]city in 81 B.C. At first he Sulla, but having veered popular party, tried to rescind the Sullan constitution during his consulate of 78. He opposed the burial of Sulla in the Campus Martius, and the bitter quarrel with [illegible] is colleague, to which his [illegible] gave rise, eventually led [illegible]r. In 77 he suffered defeat [illegible]apus Martius at the hands of Pompey and Catulus, the senatorial leaders.

Marcus Æmilius Lepidus, a useful tool to Cæsar, because of his untold riches. It was he who proposed Cæsar's dictatorship, and in 46 B.C. was rewarded for his services by being made colleague to the dictator in his consulate, and also his magister equitum. In the civil war which followed Cæsar's murder (44), he joined forces with Antony, and was allowed to join him and Octavian in the triumvirate (43). But whilst the other triumvirs fought their enemies abroad Lepidus left idle in Rome, [illegible] was stripped of [illegible] and Spain, his provinces. The young Octavian finally reduced him to impotence in Sicily (36). Here his undignified

public life ends, but he lived on till 13 B.C.

Le Play, Pierre Guillaume Frédéric (1806-82), a French engineer and economist, was a native of La Rivière Saint Sauveur (Calvados). After other appointments he became professor to the School of Mines in Paris, and in 1855 received a commission from Napoleon III. to organise the exhibition of that year and afterwards the one of 1867. He published: *La Réforme Sociale en France*, 1864; *L'Organisation du Travail*, 1870; *La Constitution essentielle de l'Humanité*, 1881; and *La Réforme Sociale*, 1881.

Lepontine Alps, a part of the Alpine range of mountains, situated between the Simplon and Splügen passes. They include also the Adula group close to the sources of the Upper Rhine. *See* ALPS—I. *Western*.

Leporidæ, the hare family, belong to the Duplicidentata, a sub-order of Rodentia, distinguished by the presence of incisors at birth. The genus *Lepus* contains the hares and rabbits (*q.v.*).

Le Portel, a seaport in the dept. of Pas-de-Calais, France, 2 m. S.S.W. of Boulogne. Pop. 6400.

Leprosy, an endemic, chronic, infectious disease, associated with the presence of a micro-organism, *bacillus leprœ*. L. has been known from time immemorial, and was common in Britain in the middle ages. Hospitals for the shelter of lepers were established under the name of houses, from St. Lazarus, the p saint of lepers. Towards the end of 15th century the disease practically disappeared in England, and it is now unheard of in this country, although a case was reported in Shetland as late as the 19th century. In other European countries, notably Norway, Turkey, and Spain, the disease is still in existence, although, with the exception of Spain, a marked diminution has been noted. It is prevalent also along the coasts of Africa, throughout Asia, in Australia, Hawaii, S. America, and in certain parts of N. America. The reason for its sudden disappearance from some countries and its no less sudden development in others is not understood. No specific cure appears to have been found, although various preparations have caused improvement in certain cases. Two forms of L. are known, a tubercular and an anæsthetic form. In the former, papules are formed, which later develop into nodules; these ultimately ulcerate, and the patient falls into an extremely weakened state and is likely to fall a victim to any intercurrent disease, especially tuberculosis. The anæsthetic form is less severe and slower in its development. There is first of all a constitutional derangement accompanied by hyperæsthesia. Dry eruptions are formed on the skin, and certain nervous changes take place, developing into insensibility of the peripheral nerves over large areas. Increasing degeneration of the nerves and paralysis takes place, while trophic lesions occur, resulting in the loss of fingers, toes, etc. Recovery sometimes takes place, but the disease usually runs a chronic course, and the patient may die from any disease to which his weakened condition makes him liable.

Lepsius, Karl Richard (1810-84), a German Egyptologist, born at Naumburg-am-Saale. In 1834 he wrote his first book, *Die Paläographie als Mittel der Sprachforschung*. Between 1834 and 1842 he travelled in England, Italy, Holland, and Germany, collecting materials for his dissertations of Egyptian art, and studying the ancient Etruscan and Oscan languages. During these years he wrote *Lettre à M. Rosellini sur l'Alphabet Hiéroglyphique* and *Inscriptiones Umbricæ et Oscæ*. He conducted a scientific expedition (1842-45) to Egypt, and published the result of his researches in *Denk-*

[illegible] of small, hardy [illegible] in gardens for carpet bedding and for covering dry banks. They produce yellow blooms in June and July.

Leptis: 1. *Leptis Magna* (modern *Lebda*), a seaport tn. on the N. coast of Africa, 60 m. S.E. of Tripoli, once a Phœnician colony. 2. *Leptis Minor*, a tn., now ruined, on the E. coast of Tunis, Africa.

Leptospermum, an Australian genus of half-hardy shrubs, with small leathery, dotted leaves, in some cases purplish in tint, and white or purplish red hawthorn-like flowers. They prefer a sandy peat. The leaves of *L. lanigerum*, a large tree, have been used for making tea.

Lepus (the Hare), an ancient constellation supposed to represent a hare in the act of running from Orion's dog. It is situated directly under Orion.

Le Puy, or Le Puy en Velay, cap. of Haute-Loire, France. It is built on the slopes of Mont Anis (2050 ft.). A great iron statue of the Virgin, which dominates Mont Corneille (433 ft.), overlooks the fine Romanesque cathedral of Notre Dame (12th century).

All kinds of guipure and lace are here manufactured. Pop. 21,500.

Le Queux, William (*b.* 1864), a novelist, born in London. He has travelled much, and has a fine collection of mediæval manuscripts and other interesting articles. Among his books are *Guilty Bonds*, 1891; *If Sinners Entice Thee*, 1897; *Secrets of Monte Carlo*, 1899; *Wiles of the Wicked*, 1900; *Her Majesty's Minister*, 1901; *Secrets of the Foreign Office*, 1903; *The Invasion of 1910*; *Spies of the Kaiser*, 1909; *The House of Whispers*, 1909; *Treasure of Israel*, 1910; *Hushed Up*, 1910; *Fatal Fingers*, 1912; *Without Trace*, 1912; *The Death Doctor*, 1912.

Lercara Friddi, a tn. with important sulphur deposits in the prov. of, and 28 m. S.S.E. of the city of, Palermo, Sicily. Pop. (com.) 13,500.

Lerici, a small seaport, 12 m. E.S.E. of Spezia, on the Gulf of Spezia in Liguria, Italy. Close by are smelting works for lead ore. Pop. (com.) 9000.

Lerida: 1. A prov. of N. Spain, watered by the Ebro and its tribs. Canals have rendered the southern Llaños de Urgel comparatively fertile, but agriculture is not very profitable, and industries are undeveloped. Wine, wool, and cattle are exported. Area 4690 sq. m. Pop. 280,715. 2. The cap. of the above province. It is on the Segre, 55 m. N. of Tortosa. There are two cathedrals. Pop. 21,500.

Lerins, Iles de, a group of French islands, 2½ m. S. of Cannes in the Mediterranean Sea. Marguerite and St. Honorat are the largest.

Lerma: 1. A tn. of Mexico state, Mexico, a few miles E. of Toluca. Pop. 7200. 2. A riv. of S. Mexico, rising 18 m. W. of Mexico city and flowing into W. Lake Chapala, emerging as the Rio Grande de Santiago.

Lermontov, Mikhail Yurevich (1814-41), a Russian poet and novelist, born at Moscow; afterwards became an officer in the Guards. Czar Nicholas transferred him to the Caucasian army, as he was indignant with the tone of L.'s poem on the death of Pushkin. But the wild life of the mountainous Caucasus proved no exile to the freedom-loving poet. Here he wrote his novel, *A Hero of Our Time* (1840), and here he died, like Pushkin, in a duel. His character and poems were alike Byronic.

Leroi, Julien David (1724-1803), a French writer on architecture, born in Paris. He went to Rome to study the antiquities. In 1754 he visited Greece for a similar purpose, and on his return published his *Ruines des plus beaux Monuments de la Grèce* (2nd ed., 1770), which was the earliest systematic account of the archæological remains of that country.

Leros, one of the southern Sporades near Delos in the Ægean, forming part of the Ottoman empire. There are marble quarries. Pop. 3000.

Leroy-Beaulieu, Henri Jean Baptiste Anatole (*b.* 1842), a French publicist. He wrote a series of articles for the *Revue des Deux Mondes* (1882-89). In book form these articles became subsequently known as *L'Empire des Tsars et les Russes*. In another of his Russian studies, *Un Homme d'Etat russe*, he told the story of the emancipation of the serfs under Alexander II. He also wrote several books on Judaism and the Jews, and on Roman Catholicism and the papacy.

Leroy-Beaulieu, Pierre Paul (*b.* 1843), a French economist. Having already contributed to the *Journal des Débats* and the *Revue des Deux Mondes*, he founded in 1873, *L'Economiste Français*, of which he is still director. In 1872 he began to lecture on finance at the Ecole Libre des Sciences Politiques, at the institution of which he had assisted. To-day he is a member of the Institut de France, and professor of political economy at the Collège de France. In his popular *Collectivisme* (1883), he exposed the errors of collectivist doctrines. Other of his works are: *La Colonisation chez les Peuples Modernes*, 1874; and a *Traité de la Science des Finances*, 1877.

Lerwick, a seaport in the Shetland Is., Scotland, and the most northerly tn. of the United Kingdom. It is on Bressay Sound, a natural harbour on the E. coast of Mainland, and lies 115 m. to the N.E. of Kirkwall in Orkney. L. is an important fishing station, and also a centre for the Royal Naval Reserve, who use the old Cromwellian fort as their depôt. Pop. (1911) 4654.

Le Sage, Alain René (1668-1747), a French author and dramatist. An assiduous writer, he published over a hundred dramas, the best of which are: *Crispin rival de son maître* (1707), an extravagant farce of a knavish valet, and *Turcaret* (1709), a brilliant and essentially Molièresque comedy and satire on the contemporary dealers in finance. But his posterior fame rests on his romances, *Le Diable Boiteux* (1707), and *Gil Blas de Santillane* (completed in 1735). Though the scene of the latter, his masterpiece, is laid in Spain, it is the life of Paris which is painted. The characters of Gil Blas and the preposterous quack, Doctor Sangrado, as also of the sprightly demon, Asmodeus in *Le Diable Boiteux*, are drawn with the detachment of a

great artist, whilst as a stylist Le Sage ranks with the best authors of his day.

Les Andelys, a city in the dept. of Eure, France, 30 m. S.E. of Rouen by rail. Pop. 5500.

Lesbonax, a Greek rhetorician, who lived in the days of Augustus. According to Suidas he wrote at least sixteen political orations, but two only have survived to our times. In one of these he urges the Athenians to persist in their struggle with Sparta.

Lesbos, Mitilini, or Mytilene, *see* MYTILINI.

Les Cayes, W. Indies, *see* AUX CAYES.

Leschenaultia, a genus of evergreen shrubs. *L. biloba major* is one of the finest blue flowering plants grown in the greenhouse. It needs a minimum temperature of 45° during the winter, and any damage to the roots must be avoided. Other species include *L. formosa* with scarlet flowers.

Lescot, Pierre (*c.* 1510-78), a French architect, was an abbé of Cluny, and a canon of Notre Dame. What is now known as the Vieux Louvre, the western side, that is, of the quadrangle facing the Tulleries, was designed by him. This contains the famous Salle des Caryatides. . It is believed that he collaborated with Jean Goujon in supervising the commencement of this palace.

Lèse-majesté, *see* LEZE-MAJESTY.

Lesghians (also called Lesghis, Lezghines, and Leki) are a people, composed of a variety of lesser tribes, who dwell with the Tchetchenzes in [illegible] also in [illegible]ly, and [illegible] There [illegible]ll, and among them are included Avars, Kurinians, Lakians, Andians, and Kasimukhians. In 1859 when Shamyl, their leader, was taken prisoner, they lost their independence and came under the Russian yoke. As a people they are brave, hardy, and quick to learn, and excel especially in the making of cutlery and shawls.

Lesina, an island in the Adriatic, belonging to Dalmatia, Austria. The islanders are engaged in the cultivation of olives, grapes, figs, etc., and in fishing and boat-building. Lesina is the cap. Pop. of island 18,000.

Leskovac, or Leskovatz, a tn. of Servia, 26 m. N. of Vranya. Hemp, flax, and tobacco grow in plenty. Pop. 14,266.

Leslie, a market tn. on the Leven, 3½ m. S. of Falkland, with bleachworks and flax-spinning and paper mills, in W. Fifeshire, Scotland. Pop. (1911) 2142.

Leslie, Lesly, or Lesley, The family of, descended from Malcolm, son of Bartholf, who lived during the latter part of the 12th century in Lesslyn or Leslie, in Aberdeenshire. In 1457 the family received a title by the conferment of the earldom of Rothes on George L., a native of Rothes. The seventh earl was created Duke of Rothes, Marquis of Ballinbreich, but died without issue, the title continuing through the family of his eldest daughter. Connected with the Earls of Rothes are the Earls of Leven, descended from Alexander L. (*q.v.*); the Lords Lindores, whose title was created in 1600, and became extinct in 1775; and the Lords Newark, the first of whom was David L. (*q.v.*). *See* Colonel L.'s *Historical Records of the Family of Leslie*, 1869.

Leslie, Alexander, Lord Balgonie, first Earl of Leven (*c.* 1580-1661), a Scottish general, a native of Aberdeenshire. He enlisted as a common soldier in the army of Gustavus Adolphus, King of Sweden, but by 1636 he had been promoted to the rank of field-marshal of Sweden, and his gallantry was awarded by a knighthood. He fought with great distinction in the Thirty Years' War, holding the chief command under Gustavus. In 1629 he successfully defended Stralsund against the insurgent imperialists, led by Wallenstein. Nine years later he was recalled to Scotland to resist the ecclesiastical policy of King Charles I. and set himself to organise the Covenanting army. With his army he marched S. to Duns Law in 1639, and in 1640 reached Newcastle, which he held till the treaty of Ripon in 1641. In August of that year he was received by the king and created Earl of Leven and Lord Balgonie. He fought in Ireland in 1642, and later supported Charles against the Parliamentarians. After the execution of the king, he worked for the restoration of Charles II., and fought against Cromwell at Dunbar in 1650. In 1651 he was imprisoned in the Tower, and on his release retired to Scotland, and died at Balgonie, in Fifeshire. *See* Terry's *The Life and Campaign of Alexander Leslie, First Earl of Leven*, 1899.

Leslie, Charles (1650-1722), an Angli- [illegible] of his benefice on refusing to take the oath of allegiance at the accession of William and Mary. In 1689 he went to England, where he wrote numerous pamphlets, the chief of which are: *Gallienus Redivivus, or, Murther will out* (1695); and *The Good Old Cause, or, Lying in Truth*. The latter caused a warrant to be issued for his arrest. He escaped to St. Germains (1711) and joined the Pretender

(1715), finally returning to Ireland in 1721. His *Theological Works* were published in 7 vols. (Oxford 1832).

Leslie, Charles Robert, R.A. (1794-1859), an English painter and writer, born in London of American parents. His first successful picture was 'Anne Page and Slender,' which was followed by 'Sir Roger de Coverley going to Church.' He chose his subjects chiefly from the works of Shakespeare, Addison, Fielding, and Cervantes. In 1624 he was elected an R.A. after the exhibition of his 'Sancho Panza and the Duchess.' He was appointed professor of drawing at the Military Academy at West Point (1833-34), and professor of painting at the Royal Academy (1848-51). He also gained some popularity as a writer, his chief books being *Handbook for Young Painters* (1845), a *Life* of Constable (1845) and of Sir Joshua Reynolds, which was completed by Tom Taylor, who also edited his *Autobiographical Recollections*, 1860.

Leslie, David, Lord Newark (*d.* 1682), a Scottish general, fifth son of the first Lord Lindores. He took part in the Thirty Years' War, serving under Gustavus Adolphus, but returned to Scotland about 1640 at the time of the rise of the Covenanters against King Charles I. Joining the troops under his kinsman, Alexander Leslie, Earl of Leven, as lieutenant-general, he was present at the battle of Marston Moor (1644), routed Montrose at P[illegible] fought in the [illegible] Charles took [illegible] camp. With [illegible] the rest of the Covenanters, he went over to the Royalist side, and after some strategic success was taken prisoner by Cromwell at Worcester in 1651, and was confined in the Tower till the Restoration. In 1661 he was created Lord Newark. Consult Gardiner's *History of the Great Civil War*.

Leslie, Frank, *see* CARTER, HENRY.

Leslie (or Lesley), John (1527-96), a Scottish bishop and historian, born at Kingussie, Inverness-shire, where his father, Gavin L., was rector. He studied theology at Poitiers, Toulouse, and Paris, and took holy orders in 1558. He was strongly opposed to the Reformation, and in 1561 had a disputation with Knox and others. In the same year he went to France to accompany home the young Queen Mary, whose friend and spiritual adviser he continued to be to the end of her life. His promotion was now rapid. He was appointed professor of canon law, Aberdeen (1562), privy councillor (1565), Abbot of Lindores (1565), and Bishop of Ross (1565). He also sat on the commission to revise the laws of Scotland, and was largely responsible for the 'Black Acts' of *Acts and Constitutionis of the Realme of Scotland* (1566). On the imprisonment of Mary in England, he appeared as her ambassador before Elizabeth, plotted for her escape, and made plans for her marriage with the Duke of Norfolk. In consequence, he was imprisoned in the Tower (1571-73) and was banished from England (1573). While on the Continent pleading Mary's cause, he published *De Origine, Moribus et Rebus Gestis Scotorum* (Rome, 1578). In 1579 he was made suffragan and vicar-general of the diocese of Rouen, and was twice imprisoned on account of his political opinions. He was appointed Bishop of Coutances in Normandy (1593), and died in an Augustinian monastery near Brussels. His writings include: *A Defence of the Honour of . . . Marie, Queene of Scotland*, 1569, 1571, and 1574; and *De illustrium fœminarum in republica administranda authoritate libellus*, 1580. *See* Cody's edition of the Latin history (Scottish Text Society, 2 vols., 1888-95).

Leslie, Sir John (1766–1832), a Scottish mathematician and physicist, born at Largo in Fifeshire. He spent 1788-89 in Virginia as a private tutor, and then held a similar position in the family of Josiah Wedgwood (1790-92). In 1805 he was elected professor of mathematics at Edinburgh, and of natural philosophy in 1819. He discovered a process of artificial congelation in 1810, which he published in *A Short Account of Experiments and Instruments depending on the Relations of Air to Heat and Moisture*, 1813. His other works include: *Geometry of Curve Lines*, 1813; *Philosophy of Arithmetic*, 1817; and *Elements of Natural Philosophy* (vol. i.), 1823, unfinished. He was elected a member of the Institute of France in 1820, and was created a knight in 1832.

Leslie, Thomas Edward Cliffe (1827-82), a Br[illegible] born in co. [illegible] was called t[illegible] but was more interested in social questions than in law. In 1853 he was appointed to the chair of jurisprudence and political economy at Queen's College, Belfast, but continued to live in London. His papers on industrial economy were collected in *The Land Systems*, 1870; *Essays on Political and Moral Philosophy*, 1879; and *Essays in Political Philosophy*, 1888.

Lesmahagow, a coal-mining village, 5 m. S.W. by W. of Lanark, in Lanarkshire, Scotland. Pop. (1911) 11,990.

Lespinasse, Jeanne Julie Eléonore de (1732-76), a French author, the illegitimate daughter of the Comtesse d'Albon. For ten years (1754-64) she acted as companion to Mme. du Deffand, and in her salon made the acquaintance of D'Alembert, and other members of her brilliant coterie. But the attractions of her reader roused the jealousy of Mme. du Deffand, and a violent quarrel ensued, the upshot of which was that Mlle. de L. set up a rival salon, and D'Alembert shared her roof. She did not, however, accept him as her lover, but, as her *Lettres* (published in 1809) reveal, was the victim of a devouring passion for the Comte de Guibert, and in a less degree for the Spanish Marquis de Mora.

Lesseps, Ferdinand, Vicomte de (1805-94), a French diplomatist, born at Versailles. In 1828 he was sent as assistant vice-consul to Tunis, and in 1832 he was appointed vice-consul at Alexandria. He received the Cross of the Legion of Honour for his heroic conduct, during an epidemic of the plague (1834). He became consul of Cairo, and while here began his plans for the construction of the Suez Canal. In 1837 he married Mlle. Agathe Delamalle. He served as consul at Rotterdam, Malaga, Barcelona, and Madrid. In 1854 he received the concession authorising him to pierce the isthmus of Suez. He obtained, by subscription, more than half the capital he needed, and the canal was finished in 1869 (*see* SUEZ CANAL); for this he received the Grand Cross of the Legion of Honour, and an English knighthood. In 1881 he commenced the Panama Canal. The funds were insufficient and political trouble followed, the company was wound up in 1888, and the directors were charged with fraud (*see* PANAMA CANAL). De L. came to England enfeebled in health and broken with trouble. He died at La Chenaie. He was a man of great courage, with a reverence for duty and honour, possessing simple tastes and an affectionate nature. His second wife was Mdlle. Autard de Bragard. By his first marriage he had five sons, by the second twelve children. He was a member of the French Academy and of the Academy of Sciences. *See* G. Barnett Smith, *The Life and Enterprises of Ferdinand de Lesseps*, 1893.

Lesser Antilles, *see* ANTILLES and WEST INDIES.

Lessines, a city on the Dender, 13 m. S.E. of Oudenarde, in the prov. of Hainaut, Belgium. Pop. (com.) 10,500.

Lessing, Gotthold Ephraim (1729-81), a German essayist, critic, and dramatist, born in Kamenz in Upper Lusatia. After five years at Meissen he passed in 1746 to Leipzig University to study theology, but found more attraction in philosophy and literature. After a few years' literary hackwork in Berlin he went to Wittenberg (1751-52) where, in the course of extensive reading, he took his M.A. The next two years were spent in Britain studying Latin and English literature; in 1754 appeared his first work of importance, *Vademecum für den Herrn G. S. Lange.* About this time he became intimate with Nicolai, and collaborated with Moses Mendelssohn in the brilliant essay *Pope, ein Metaphysiker* (1755); the same year saw the publication of his first drama of any worth, *Miss Sara Sampson*, the outcome of his studies in English literature. The Seven Years' War (1756-63) cut short a three years' tour L. had projected, and he returned to Leipzig where he remained for a time with the poet Von Kleist; but 1758 found him again in Berlin with Nicolai and Mendelssohn, with whom he issued a journal, *Litteraturbriefe*, consisting of letters in criticism; the fifty-four letters which L. himself contributed are the direct antecedents of his later writings, and possess much c[illegible] insight, an[illegible] 65 he was [illegible] of Breslau, but returning to his literary career he produced in quick succession two of his finest masterpieces: *Laocoon* (1766), one of the greatest constructive critical works on æsthetics ever written, and *Minna von Barnhelm* (1767), the first great comedy in the German language in point of both chronology and merit. His essays on the *Fable* (1759) and the *Epigram* (1771) must also be mentioned. His ideas found a maturer expression in his *Hamburgische Dramaturgie* (1769), the outcome of his short-lived connection with the National Theatre of that town. A series of brilliant pamphlets followed, notably the essay *Wie die Alten den Tod gebildet* (1769), written in controversy against Klotz, and the whole school of eclectics, who had attacked his *Laocoon*. The following year he became librarian at Wolfenbuttel, under the patronage of the Duke of Brunswick, with whom he subsequently travelled in Italy; and here *Emilia Galotti* (1772), his greatest tragedy, was published. In 1776 he married Eva Konig, but she died in childbirth after little more than a year's conjugal happiness. Mean-

[illegible]

Hamburg, his chief attack being the Reimarus *Fragmente;* but for fear of

incurring the displeasure of his patron he returned to 'his old pulpit, the stage,' and summed up his ideas on toleration in the splendid dramatic poem, *Nathan der Weise* (1779). The following year saw the completion of the masonic dialogues, *Ernst und Falk*, and also *Die Erziehung des Men-* of his work L. on subsequent literary development is incalculable. His works rank as monuments of constructive criticism; they bear witness to his profound learning, and are written in an exceptionally concise and vivid style. He was the opponent of pedantry, the champion of culture against mere knowledge; and his writings reveal a keen mind which hated injustice, intolerance, and bigotry as much as it loved truth, breadth of vision, and independence.

Bibliography.—Works: Lachmann (re-edited Muncker), 15 vols. (1886-1900); Boxberger and Blümner, 14 vols. (1883-90). Lives: (German) Schmidt (1884) and Borinski (1900); (English) Sime (1877), and Rolleston (1889). Crit. by Schmidt, Hebler, Blümner, etc. Most of his works can be had in English translation in the Scott and Bohn Libraries.

Lestock, Richard (*c.* 1679-1746), a British admiral. He entered the navy at an early age, and becoming a captain in 1706, took part in the fight off Cape Passaro (1718). He was in the W. Indies in 1741, and being sent to the Mediterranean in 1742, took part in the battle off Toulon (1744). He was created an admiral in 1746, and placed in command of an expedition to the coast of Brittany *See* Mahan's *Influence of Sea Power*, 1896, and Clowe's *The Royal Navy*, 1897-1903.

L'Estrange, Sir Roger (1616-1704), an English pamphleteer, born at Hunstanton. In 1639 he accompanied Charles I. on his expedition against the Scots and during the Civil War was captured by the Parliamentarians in an attack on Lynn and condemned to death as a spy. He was reprieved, and imprisoned in Newgate, but escaped in 1648, and fled to the Continent, returning to England in 1653, and making terms with Cromwell. He was made Licenser of the Press at the Restoration. In 1663 [illegible] newspaper *The* [illegible] and also *The* [illegible] became the *London Gazette*. In 1679 he founded the *Observator*. He lost his office as licenser at the revolution of 1688. He was a man of letters of considerable ability, and made some good translations of Josephus, Cicero, Æsop, Erasmus, and Quevedo.

Le Sueur, Eustache (1617-55), a French sacred and historical painter, born in Paris. He studied under Vouet. His best work is a series of pictures on the *Life of St. Bruno*. Many of his pictures, including 'Angel and Hagar,' 'St. Paul preaching at Ephesus,' and numerous fine black and white drawings are in the Louvre, Paris. See *Life* by Vitet (in French), 1849.

Le Sueur, Jean François (1760 or 1763-1837), a French musical composer, born near Abbeville. He was musical director at the Cathedral of Notre-Dame, Paris, from 1786-87. From 1795-1802 he was inspector of studies at the Paris Conservatoire, and in 1804 he was appointed Maestro di Capella to Napoleon, for whose coronation Le S. composed the musical service. Louis XVIII. retained him at his court, and in 1818 appointed him professor at the Paris Conservatoire. His operas include *Le Caverne*, *Ossian*, and *Paul et Virginie*.

Letchworth, a tn. in co. Herts., England, 34 m. from London. It was founded in 1903 as a Garden City on the lines suggested by Mr. Ebenezer Howard in *Garden Cities of To-morrow*, 1898, and is being developed by a joint-stock company, First Garden City Ltd., on an estate of 4566 acres. There are thirty factories at work in the industrial area, the leading trades being printing, bookbinding, and engineering. The factories and workmen's cottages are models of their kind. L. is the most outstanding example of modern town-building in the world. Pop. (1911) 5000; in 1913 it was 8000. For further information see the publications of the Garden City Company, and *The Garden City*, by C. B. Purdom, 1913.

Lethargy, a state of unnaturally sound or prolonged sleep from which the sufferer can be aroused only with great difficulty. It is intermediate between heavy sleep and complete coma, and may be the result of excessive exertion either of mind or body, but is more often occasioned by a congestion of blood in the vessels of the brain, when it is attended by great danger.

Lethe (Oblivion), in ancient Greek mythology, one of the rivers of the lower world whose waters, when drunk by the dead, brought them forgetfulness. The belief first appears in literature in the 5th century B.C., when Aristophanes mentions it in his *Frogs*. Plato embodies the myth in his *Republic* (x.), and Pausanias includes the drinking of the waters of L. as part of the Orphic initiatory rites (ix. 39, 8) with which compare the draught in Dante's *Purgatorio*

(28-33). *See* J. E. Harrison's *Prolegomena to the Study of Greek Religion*, 1908.

Lethington, Lord, *see* MAITLAND, SIR RICHARD.

Leto (called 'Latona' by the Romans), in ancient Greek mythology the daughter of Cœus, the Titan, and Phœbe; was beloved by Zeus, and by him became the mother of Apollo and Artemis. The later poets dwell upon Hera's persecution of her, both before and after her connection with the island of Delos, but Homer and Hesiod do not mention it. Her worship was generally connected with that of her children, particularly at Argos and Delos.

Letter of Credit, *see* BANKS.

Letter of Marque, a licence or commission granted by the government to a private person to fit out an armed ship or privateer to capture the enemy's ships and merchandise in time of war, or in reprisal for damage done. Privateering was abolished by the Declaration of Paris in 1856, so that the granting of 'letters of marque' has fallen into disuse. *See* Wheaton's *International Law* (4th ed.), 1904; and Vall's *International Law* (5th ed.), 1904; also PRIVATEERS.

Letterkenny, a market tn., co. Donegal, Ireland, 23 m. W. by S. of Londonderry. Has industries of shirt-making and rope-making. Pop. (1911) 2400.

Letters, or Epistolary Writing, a branch of literature which is but little studied although one of the most delightful forms. A good letter requires to be natural, easy, and well expressed, suited to the nature and requirements of the person addressed. Among the 'Letters' of literature those of Madame de Sévigné occupy one of the foremost places. Among the most famous 'Letters' in English literature the first in date are the *Paston Letters*, written between various members of the Paston family (afterwards Earls of Yarmouth) during the years 1422-1509, and first published in 1823. These, not being meant for publication, are frank and natural, and provide an excellent picture of the times in which they were written. The epistolary form has often been used for didactic purposes, as the Epistles of St. Paul and the early Christian teachers, and for political purposes, as in the *Lett[illegible]* (1769-72). Other famo[illegible] are *Lord Chesterfield's* [illegible] *Son* (1774-87), Sir W[illegible] *Paul's Letters to his Ki[illegible]* and *Letters of Malachi Malagrowther* (1826), and in recent times the *Vailima Letters* (1895) of Robert Louis Stevenson. Swift's *Journal to Stella* is more in the nature of a diary, but his *Drapier's Letters* are a masterpiece of literary invective. Other famous letter-writers are Cicero, Erasmus, Horace Walpole, Pope, Charles Lamb, Cowper, Jane Welsh, Carlyle, and Byron.

Letters, or Signs, *see* ALPHABET and PHONETICS.

Letters of Attorney, *see* POWER OF ATTORNEY.

Letters Missive are letters from the sovereign conveying permission or command to some particular person, thus differing from 'letters patent,' which are addressed to the public. They are used generally for the nominations of a bishop, and are sent to the dean and chapter with the *congé d'élire* (*q.v.*).

Letters Patent, *see* PATENTS.

Letter-wood, the name given to the heart-wood of *Brosimum Aubletii*, a species of Moraceæ found in Trinidad. It is chiefly used as a veneer.

Lettres de Cachet (*lettres closes*), that is blank 'letters' signed and sealed by the king and issued to governors of prisons. The insertion of a person's name therein was all that was necessary to secure committal to the Bastille or another prison. L. de C. were issued by the kings of France before the Revolution. They were abolished in 1789.

Lettres Portugaises, *see* ALCOFORADO, MARIANNA.

Letts, an Indo-European people of the Lithuanian race, living chiefly in the W. of Russia. They are agricultural peasants, christianised by the Teutonic knights. They have a distinct language and literature containing much poetry.

Lettuce, the valuable salad plant which can be produced for use on any day in the year. It originated from *Lactuca scariola*, a native of Southern Europe. The cabbage L. is low and cabbage-like, the cos L. comes later in the season and is more crisp, erect, and compact, but these types are widely varied.

Leucadia, or **Leukas,** the ancient name of one of the Ionian Is., now called Santa Maura, lying off the coast of Acarnania, 50 m. S.E. of Corfu. It is about 20 m. long, with a greatest breadth of 8 m., and has an area of 110 sq. m. The surface rises in rugged limestone heights, from the chalky appearance of which the island takes its name of 'Whiteland.' [illegible] ontory (Cape Ducato) end of the island rises [illegible] is the legendary scene [illegible] cap' and the death of Artemisia, Queen of Halicarnassus. The chief products are olive oil, currants, and wine. The capital, Amaxikhi, or Santa Maura, lies at the N.E. end. The land was colonised in

the 7th century B.C. by the Corinthians, who made it an island by cutting a canal through the isthmus which joined it to the mainland. Professor Dörpfeld identifies it with the Ithaca of the *Odyssey*. *See* P. Goessler, *Leukas-Ithaka*, 1904.

Leuchars, a vil. and par. of Fifeshire, Scotland, 6 m. N.W. of St. Andrews. It has a church dating from the 12th century with a Norman apse and chancel. Pop. (1911) 2605.

Leuchtenberg, a former principality of Bavaria, in the Upper Palatinate. Capital, Pfreimd. It was given to Eugene Beauharnais by Napoleon in 1817 with the title of Grand Duke of Leuchtenberg.

Leucine, or Aminoisocaproic Acid, $(CH_3)_2.CH.CH_2.CH(NH_2).COOH$, a substance found widely distributed in the animal juices, particularly in the pancreas. It is produced by the putrefaction of proteins, and may be prepared from proteins such as casein by hydrolysis. L. crystallises in glistening plates which melt at 270° C., and are soluble in water and moderately so in alcohol.

Leucippus (*fl.* 6th century B.C.), a Greek philosopher, the contemporary of Zeno and Anaxagoras, and the founder of the Atomistic theory afterwards developed by Democritus.

Leuciscus, or White Fish, a genus of the teleostean family Cyprinidæ, and forms a sub-family Leuciscina. *L. rutilus* (the roach), *L. cepalus* (the chub) *L. vulgaris* (the dace), and *L. phoxinus* (the minnow) are familiar species.

Leucite, a rock-forming mineral, consisting of potassium and aluminium metasilicate, $KAl(SiO_3)_2$. It crystallises in icositetrahedra in the cubic system, but the crystals are not isotropic, so that t
ture is probably
500° C. they became isotropic, but become again doubly refracting on being cooled. The crystals are white or ash-grey in colour, have a hardness of 5·5, a sp. gr. of 2·5, and a conchoidal fracture. They often contain

. . . . . .

distributed throughout the globe, especially in the form of lavas in the neighbourhood of Vesuvius and Rome. They are usually rocks which contain felspar but no quartz.

Leuckart, Rudolf (1823-98), a German naturalist, born at Helmstadt. In 1850 he was appointed professor of zoology at Giessen, and in 1869 at Leipzig. He published *The Parasites of Man* (Eng. trans. by Hoyle, 1886) and numerous works on helminthology.

Leucocythæmia, or Leucæmia, a disease characterised by an excessive number of leucocytes, or white corpuscles, in the blood. There are several forms of the disease, but all may exhibit enlargement of the spleen, the lymphatic glands, and bone-marrow. The acute form of lymphatic leucæmia is generally fatal, and is characterised by a high temperature, progressive anæmia, great enlargement of the spleen and lymphatics, and softening of the bone-marrow. The chronic form of lymphatic leucæmia is characterised by similar changes in the lymphatics, but a lesser degree of hypertrophy in the spleen; it may last for two or three years. Myelogenic leucæmia is due to disease in the bone-marrow. It is nearly always chronic, and may run its course with varying severity for several years, though ultimate cure is improbable. The presence of numbers of leucocytes, and the accompanying anæmia, appears to be caused by the functions of the bone-marrow, in replacing red corpuscles being diverted to the preparation of white corpuscles. There is no satisfactory treatment for the disease.

Leucocytosis, an increase in the number of white corpuscles above the average number contained in the blood. The white corpuscles, or leucocytes, act as destroyers of microbes that may have attacked the tissues. They are attracted to any portion of the body where such microbes are numerous, and the need for performance of their functions stimulates the production of leucocytes. L. is, therefore, a symptom of some morbid condition where the production of leucocytes has been unduly stimulated. In normal health the number of leucocytes is from 5000 to 10,000 per cubic
. These are five varieties:
phonuclear cell, derived
from the bone-marrow and constituting 70 per cent. of the total number of colourless corpuscles; the *cosinophile* cell, derived from bone-marrow, and forming 2 per cent. of the whole; the *lymphocyte*, derived from the
phoid tissue, and forming above
er cent. of the whole; the *macro-*
, probably a later development of the lymphocyte, and forming 4 per cent. of the whole; the *basophyle*, a cell rarely found in the blood of adults. The functions of the different varieties vary to a certain extent; they probably have varying capacities for attacking the different pathogenic organisms. L. is usually associated with an increase in the number of polymorphonuclear cells, although there are allied conditions in which the lymphocytes or the cosinophile cells may be increased above the average. During the process of diges-

tion and in the course of pregnancy the leucocytes are increased in number [illegible] ing [illegible] and [illegible] degr [illegible] occu [illegible] influenza, measles, malaria, typhoid fever, it is possible to base a differential diagnosis on the extent of L. In typhus fever, for instance, it is very pronounced, and it is an important symptom in trichinosis, the disease caused by the parasite, *trichina spiralis*, of the pig. The number of leucocytes in many cases bears a relation to the defensive power of the blood against bacillary invasion, and a sudden fall in the quantity of leucocytes is a sign of danger in many diseases. When the number becomes excessive, the condition is called *leucocythæmia* or *leucæmia* (*q.v.*). An increase in the number of lymphocytes is know[illegible]milar conditi[illegible]lls is called [illegible] condition is characteristic of some forms of insanity. The opposite condition to L., that is, where there is marked absence of leucocytes, is called *leucopenia*.

Leucol, a name applied [illegible] or its isomer, *isoquinoline* [illegible]. Both are obtained in the distillation of coal tar, and occur in the fraction which comes over between 236° C. and 243° C. Isoquinoline is separated by converting the mixed bases into the acid sulphates and subsequently decomposing the sulphate of isoquinoline with potash.

Leucoma, an opacity of the cornea, or anterior transparent portion of the eye. To outward appearance a white spot is presented, bearing a certain likeness to ground glass. According to the position and extent of this opaque area, a certain amount of disturbance of vision is occasioned. The condition is caused by inflammation resulting from injury or infection from the conjunction. If the inflammation occurs below the epithelial layer of the cornea, a loss of tissue takes place, and the place of the destroyed tissue is taken by opaque connective tissue. After the actual inflammation has ceased, the opacity may gradually clear up, but in many cases it persists and threatens to become permanent. Gentle massage of the eyeball may aid the disappearance of the cloudy area, but in general it is not advisable to interfere much with the eye while any trace of inflammation remains. L. is to be distinguished from fatty degeneration of the margin of the cornea which causes a white opacity in that region in old people.

Leuctra, a vil. in Bœotia, ancient Greece, 6 m. [illegible] from Thebes, and [illegible] ictory gained in its [illegible] y the Thebans over [illegible] B.C.).

[illegible] r resort of Switzer[illegible]n of the Valais, on the r. b. of the Rhône, 15¼ m. E. of Sion. At Leukerbad, about 10 m. N. of the town, at an altitude of 4629 ft., are hot, saline, chalybeate, and sulphurous springs, twenty-two in number. L. has several times been destroyed by avalanches, from which it is now protected by a strong embankment. Pop. 2000.

Leukoran, or **Leucoran**, a tn. in the prov. of Baku, Russia, situated at the mouth of the Leukoranka in the Caspian Sea. This town came under the power of the Russians in 1813. Pop. 5500.

Leunclavius, Johann (1533-93), a German scholar and historian, born in Westphalia. He travelled in Europe and the East in search of [illegible] [illegible] tions of the works of Zosimus and [illegible] and an abridgment of [illegible] in two folio volumes.

Leusden, John (1624-99), a Dutch philologist and Hebrew scholar, born at Utrecht. In 1649 he was appointed to the chair of Hebrew at Utrecht and held it until his death. Many curious biblical questions are explained in his *Philologus Hebræus*, 1656; *Philologus Hebræo-Mixtus*, 1663; [illegible] *ræcus*, 1670. [illegible] s are: *Schol*: *Biblicum*, [illegible] of the N.T., 1675.

Leuthen, a vil. in Prussian Silesia, 10 m. W. of Breslau; famous for Frederick the Great's victory over the Austrians in 1757. Pop. 600.

Leutschau, or **Löcse**, a tn. in Zips co., Hungary, near a tributary of the Hernad, 125 m. N.E. of Pesth. It has a church dating from the 13th century. Pop. 8061.

Leutze, Emanuel (1816-68), a German-American painter, noted for his historical pictures, born in Gmünd, Würtemberg. From 1841-59 he studied art at Düsseldorf, Munich, Venice, Rome, and other places. He returned to America and painted various historical pictures, amongst which are: 'Westward the Star of Empire takes its way' (Capitol, Washington), 'Washington Crossing the Delaware' (Kunsthalle, Bremen), 'Columbus before the Council at Salonica,' 'Cromwell visiting Milton,' and some portraits. He died at Washington.

Leuwenhoek, *see* LEEUWENHOEK, ANTHONY VAN.

Leuzinite, a mineral, classed by some geologists as a variety of halloysite. It is a hydrous silicate of alumina, and is opaline and translucent.

Levaillant, François (1753-1824), a French traveller and [illegible] born at Paramaribo, I[illegible]. He studied natural history in Paris (1777-80) and explored parts of Central Africa (1781-85). His works include: *Voyages dans l'Intérieur de l'Afrique; Histoire Naturelle des Oiseaux d'Afrique; Histoire Naturelle des Oiseaux Paradis et des Rolliers.*

Levant (from the It. *il levante*, it [illegible] general [illegible] coast- [illegible] from Greece to Egypt, but now generally restricted to the Mediterranean coast-lands of Asia Minor and Syria. *See* Hart's *A Levantine Log-Book*, 1905.

Levanter, a strong easterly wind prevalent in the western end of the Mediterranean and off the N. African coast during the summer months.

Levant et Couchant, a legal term used when a landlord sues the owner of cattle which have been trespassing on his land for not less than twenty-four hours, that is long enough to lie down and get up to feed (*couchant et levant*). The term is also used for the right of a cattle-owner to pasture (*levant et couchant, i.e.* by day and by night) his cattle on common pasturage.

Levanto, a seaport, prov. of Genoa, Italy, 11 m. W.N.W. of Spezia. Pop. 5000.

Levée (Fr. *lever*, to rise): 1. A morning ceremonial visit to the sovereign of such gentlemen as have the right of entry. The name arises from the fact that these visits were first inaugurated by the kings of France who held these receptions in their dressing-rooms. A L. is distinguished from a 'drawing-room' in England, inasmuch as only gentlemen attend the former. 2. A French term for an embankment which keeps a river in its channel; the term is also sometimes used for a riverside quay.

Le[illegible] testing the [illegible] or for obta[illegible] a line parallel to the horizon. The water-L. in its simplest form consists of a long glass tube with both its ends bent upwards and nearly filled with water, the surfaces of which in the two ends will always be in a horizontal line. The spirit-L. is much more commonly used, and is more convenient and accurate. This consists of a glass tube slightly convex on the upper side and nearly filled with alcohol, closed at both ends, and cased in brass or wood, so that it has a plane under surface on which it may rest. The bubble of air left represents the free surface of the liquid and seeks the highest position possible, which is in the middle of the tube when the [illegible] on which it rests is horizontal. [illegible]urveying purposes *spirit-Ls.* are much used in combination with various instruments. A surveying instrument, known as the levelling instrument, is of a telescope bearing a L. and mounted horizontally on a frame. The instrument is similar in construction to a theodolite; the bubble by which the instrument is brought into a position at right angles to the axis of the earth is generally placed at the top of the telescope. In the better kinds the diaphragm on which the image is formed is made of glass, and cross-hairs are engraved thereon; the eye-piece and the object-glass are interchangeable, to facilitate adjustment for collimation. To obtain the difference of L. between two points A and B, the levelling instrument is planted at a suitable place between the points; the heights at which the line of sight is cut off by a graduated levelling staff held at A and B are read off, and the difference gives the difference of L. between A and B. *See* SURVEYING; for a L. in mining *see also* MINING.

Level Crossing, also called Grade Crossing, a place where the railroad is crossed by a common road at the same level. By the Level Crossings Act, 1839, the Railway Regulation Act, 1842, and the Railway Causes Consolidation Act, 1845, such crossings must be protected by a gate, to be kept shut across the road by the railway company and protected by a flagman or a signal, or to be closed across the railway by special order of the Board of Trade. Where such a crossing adjoins a station the speed limit must not exceed 4 m. an hour.

Levellers, an ultra-republican political party in England during the Civil War. Powerful in the parliament during the early years of the Commonwealth, they advanced their views in numerous violent pamphlets, the most [illegible] by John Lilburne. [illegible] the form[illegible] after the [illegible] 1649 broke out into a mutiny, suppressed by Fairfax.

Leven, a tn. at the mouth of the Leven, Firth of Forth, Fifeshire, Scotland, 9 m. N.E. of Kirkcaldy. It is a health resort, and has fine golf links. The chief industries are rope-making, flax-spinning, and linen-

weaving. It has also breweries, foundries, and collieries. The Earl of Leven takes his title from this town. Pop. (1911) 6559.

Leven, Loch, a lake in the co. of Kinross, Scotland, has an area of 5¼ *sq. m.*, and is 11 *m.* in circuit. The surplus waters are discharged by the R. Leven. It contains seven islands, on one of which, Castle Is., are the ruins of Loch Leven Castle in which Mary Queen of Scots was imprisoned (1567-68). A causeway just under water connects the island with the W. bank. St. Serf's, the largest, contains the ruins of an old priory. It has famous trout fisheries.

Levenshulme, a tn. in S.E. of Lancashire, England, 3 m. from Manchester. The chief manufs. are cotton and woollen goods and machinery. Pop. (1911) 12,000.

Lever, a rigid bar which turns about a point called the fulcrum. The points of the bar on each side of the fulcrum are called the arms. By applying force at one point on the L. a weight is raised or resistance overcome at another point. There are three classes of Ls., according to the position of the fulcrum in regard to the power and weight: (1) Where the fulcrum is between the power and weight; to this class belong the crowbar, a poker in the bars of a grate, the handle of a pump, etc. The bascules of the Tower Bridge are of this class, the visible portion representing an arm of the L. (2) Where the weight is in the middle; to this class belong a wheelbarrow, nutcrackers (a double L.), etc. (3) Where the power is in the middle; to this class belong the treadle of a lathe, a pair of tongs, etc. In a L. the power multiplied by its arm, or distance from fulcrum, is equal to the weight multiplied by the arm. If the force applied to the L. is less than the resistance of the weight, the L. is said to work at a mechanical advantage, if *vice versâ*, at a mechanical disadvantage. Ls. of the first class may work either at an advantage or disadvantage, or the force may be exactly equal to the weight. Ls. of the second class always work at an advantage, and those of the third class always at a disadvantage, though there is the advantage in the last class that the object moved is moved through a greater space than the power. In bent Ls. the perpendicular distance from the fulcrum to the meeting-place of the lines of direction of the forces is taken for calculation. Compound Ls. are those in which the short arm of one acts on the larger arm of another, as in drawbridges, testing-machines, etc. The three types of Ls. above described abound in all mechanism, though very often in a disguised form.

Lever: 1. **Great**, a tn. in Lancashire, 1½ m. S.E. of Bolton, has coal and iron mines, and manufs. chemicals. Pop. (1911) 4600. 2. **Little**, a tn. 3 m. S.E. of Bolton, Lancashire, has cotton mills, bleaching yards, and collieries. Pop. (1911) 5200.

Lever, Charles James (1806-72), a novelist, born at Dublin. He contributed in 1837 to the *Dublin University Magazine* 'Harry Lorrequer,' which at once achieved a remarkable success. This was followed by *Charles O'Malley* (1840), *Jack Hinton, the Guardsman* (1843), *Tom Burke of 'Ours'* (1844), and *Arthur O'Leary* (1844). These books were entirely without form, and with a minimum of plot, but the author's high spirits carried the reader with him, and the characterisation and the good stories made the works irresistible. *The Knight of Gwynne* was one of his best novels, but *The Dodd Family Abroad*, the story of an Irish middle-class family abroad, told in letters, though less popular, was an excellent and amusing book. There is a biography by Edmund Downey, 1906.

Lever, Sir William Hesketh (*b.* 1851), chairman of Lever Bros., Ltd., Port Sunlight, born at Bolton, entered his father's business there in 1867, and removed to Wigan in 1877. He was Liberal M.P. for Wirral division (Cheshire) 1906-10. In 1911 he was created a baronet. He is a well-known Liberal and Congregationalist, and is chairman of the Liverpool School of Tropical Medicine.

Leveridge, Richard (1670-1758), a celebrated bass vocalist, and composer, born in London. He appeared in opera at Drury Lane and Queen's Theatre, and later at Lincoln's Inn Fields and Covent Garden. He wrote *Britain's Happiness, Pyramus and Thesbe*, and a number of songs, one collection of which had a frontispiece engraved by Hogarth. His most popular songs are: *All in the Downs*, and *The Roast Beef of Old England*.

Leverrier, Urbain Jean Joseph (1811-77), a French astronomer, born at St. Lô, Normandy. In 1846 he was admitted to the Academy. His most notable work was the inference of the existence of the planet Neptune, and his calculation of the point at which it would become visible. It was discovered in the position by Galle. In 1849 he was elected to the Legislative Assembly and was made a senator by Louis Napoleon in 1852. In 1854 he became director of the observatory of Paris.

Levertin, Oscar (1862-1906), a Swedish novelist, poet, and critic born in Ostergötland. He became

professor of literature at Stockholm. His early tendencies in fiction were towards 'naturalism,' but he repudiated this in his novel, *Pepitas bröllop* (1890), written in conjunction with Verner von Heidenstam. He also issued two volumes of short stories, *Rococonoveller* and *Sista noveller*. His poetical work includes *Legender och visor* (1891), *Nya Dikter* (1894), and *Kung Salomo och Morolf*, and his chief critical production was *Teater och drama under Gustaf III.* (1889).

Leveson, Sir Richard (1570-1605), an English admiral, born at Lilleshall, Shropshire. He served against the Armada, and in 1596 commanded an attack on Cadiz, and was knighted.

Levi, Leone (1821-88), an English jurist and statistician, native of Ancona, Italy. He settled in Liverpool (1844); lectured on political economy. In 1852 he was appointed professor at King's College, London, which position he filled with distinction. [illegible] evening classes at the [illegible] these were a great [illegible] are: [illegible] *...w*, 1873; [illegible] *of Britis...* [illegible] *its Consequences*, 1881; *Wages of the Working Classes*, 1885; *International Law*, 1887, and others.

Leviathan, a name that occurs five times in the O.T., viz. Ps. civ. 25-6, Ps. lxxiv. 14, Is. xxvii. 1, Is. li. 9, Job. xli. In the last place a description of the reptile is given. In all cases but that in Ps. civ. the term is usually explained as referring to the crocodile, and this animal being known to the Israelites chiefly from the crocodiles of the Nile, it was often used as the symbol of Egypt (Is. li.). Some have seen in L. and Behemoth legendary creatures combined from various Egyptian and Babylonian myths.

Leviathan, a British cruiser of 14,100 tons and 23 knots, launched at Clydebank in 1901.

Levico, a tn. in the Tyrol, Austria, 10 m. S.E. of Trent. It is much frequented for its mineral springs. Pop. 6682.

Levis, or Point Levi, a tn., cap. of Levis co., Quebec, Canada, on the S. shore of the St. Lawrence. It is fortified, has fine docks, great shipping trade, and considerable manufs. Pop. 7300.

Levita, Elias (1465-1549), a celebrated rabbi, philologist, critic, and poet. He spent most of his life in Rome and Venice, and had a wide circle of friends there. His works are on the Psalms, Job, Proverbs, Amos, a Talmudic and Targumic dictionary, and a Hebrew grammar. *See* his *Life* by J. Levi.

Levites, an Israelitish tribe whose origin is traced from Levi, the son of Jacob and Leah. Levi is considered by some critics as merely the eponym of the priestly caste, and some have entirely denied the existence of the L. as a tribe. On account of the attack made on Shechem by Simeon and Levi, these two tribes were not given a portion of the territory of Canaan, but were scattered throughout the country. The history of the L. is rendered very complicated by the gradual development that took place among the Jews in the direction of an exclusive priesthood and a single sanctuary. Deuteronomy (x. 8 and xxi. 5) speaks of the separation of the L. from the rest of the tribes for the work of bearing the ark, for the ministry of Yahweh, and for the deciding of controversies. But the lateness of this view is shown by the contemporary injunction that the Israelites should erect a single [illegible] on taking possession of [illegible] The Priestly Code in [illegible] and Numbers distinguishes the L. generally from the family of Aaron in particular. These last constituted the priesthood, while the L. ministered to them and had charge of the sacred ornaments. They were not allowed to offer sacrifice.

Leviticus, the third book of the Pentateuch, belongs almost entirely to the stratum known as P. (*see* HEXATEUCH). It is concerned chiefly with legislation regarding the priestly functions. Chs. i.-vii. deal with the Laws of Sacrifice and with certain priestly regulations. Chs. viii.-x. deal with the consecration of priests, and chs. xi.-xvi. with the Laws of Purification and Atonement. The section consisting of chs. xvii.-xxvi. is known as 'the Law of Holiness,' and stands apart fror [illegible] and is deri [illegible] probably [illegible] legislation. It is marked off not only by its differences in style, but also by its rigid and frequent insistence on the necessity of holiness.

Levkas, *see* LEUCADIA.

Levkosia, or Lefkosia, *see* NICOSIA.

Levuka, on Island Ovalau, was until 1882 the capital of the Fiji Islands (*q.v.*).

Levy (Fr. *levée*, from *lever*; Lat. *levare*, to raise), the collection of a body of men for compulsory military or other service in times of national emergency. The L. is usually restricted to a class, *e.g.* to men between certain ages, but in times of great danger a *levée en masse* may be enforced, when all able-bodied men are required to serve in person, either for purposes of defence or offence.

Levy, Amy (1861-89), a poet and

novelist, published seve[illegible] of good verse: *Xantipp[illegible] Poems*, 1881; *A Minor P[illegible] Verse*, 1884; and *A London Plane Tree and other Poems*, 1889. In 1889 she brought out a novel, *Reuben Sachs*, a wonderful realistic study of middle-class Jewish life that brought her into great disfavour with that community.

Lewald, Fanny (1811-8[illegible] man novelist, born at [illegible] of a Jewish family; becai[illegible] tian in 1829. In 1855 s[illegible] Adolf Stahr, a Berlin critic. She travelled largely in Switzerland, Italy, France, and England previous to her marriage, and wrote records of her journeys in 1847 and 1852. She was an ardent champion of women's rights. Her novels include: *Von Geschlecht zu Geschlecht*, 1863-65, and *Stella*, 1884, which has been translated into English. *See* her *Meine Lebensgeschichte*, 1861-63.

Lewes, a municipal bor. and the cap. of the co. of Sussex, England, situated on the navigable Ouse, 44 m. S. of London. It is of great historical importance, Henry III. having been imprisoned by Simon de Montfort in the castle, the ruins of which still exist. Market-day, Tuesday. Pop. (1911) 10,972.

Lewes, George Henry (1817-78), an English author, born in London; began to contribute to the *Edinburgh* and *Quarterly* reviews in 1840, and continued to do so for many years. He published a *Biographical History of Philosophy* in 1845-46, and in 1855 brought out his *Life of Goethe*, which is still the standard authority on the subject both in this country and in Germany. For a short time (1865-66) he was editor of the *Fortnightly Review*. In 1851 he met Mary Ann Evans, since famous under the pseudonym of 'George Eliot,' with whom he lived until his death.

Lewis, or **Lewis with Harris**, the northernmost and largest island of the Outer Hebrides, off the W. coast of Scotland, from which it is separated by the Minch, 30 m. wide. Length, N. to S., 60 m.; greatest breadth, 30 m.; area, 770 sq. m. Lochs Reasort and Seaforth divide it into Lewis on the N. and Harris on the S. The coast is much indented, having Loch Erisort and Broad Bay on the E., and Loch Roag on the W., while on the N. the headland of the Butt of Lewis rises to 80 ft. Much of the surface is rugged, and two peaks Mealasval and Ben More reach 1750 ft., but large tracts are swampy, and there is much peat and ancient forest remains. There are many Druidic remains and ruined forts. Chief industries are cattle-breeding, fishing, [illegible]elp-making, and domestic [illegible] Barley and potatoes are Stornoway is the only town. Pop. (1911) 34,224.

Lewis, Colonel David Francis, C.B., A.D.C. (*b.* 1855), an English soldier, born at Bultington, near Welshpool. He served with the Buffs in the Zulu War, being mentioned in despatches. In 1886 he joined the [illegible] and commanded [illegible] in the Dongola [illegible] made a brevet [illegible] For his share in the battles of Atbara and Omdurman he received a C.B. and the thanks of both Houses of Parliament. He was made a brevet colonel in 1898, and took part in the operations resulting in the final defeat of the Khalifa. Subsequently, he has been as war correspondent to the *Times* with the French army round Casablanca, Morocco (1907), and with the Spanish army at Melilla (1909).

Lewis, Sir George Cornewall, second Baronet (1806-63), an English statesman. In 1833 he was appointed assistant-commissioner to inquire into the condition of the poor in Ireland, and after that he sat on many boards until in 1847 he was returned to parliament in the Liberal interest as member for Herefordshire. In the same year he was appointed secretary to the Board of Control, and twelve months later was promoted Under-Secretary of State for the Home Department. From 1850-52 he occupied the position of Financial Secretary to the Treasury, and in 1855 (when he succeeded to the baronetcy) he became Chancellor of the Exchequer. He remained Chancellor until 1858, and in the following year became Home Secretary (1859-61), and then Secretary of State for War (1861-63), which latter office he accepted against his will. He was editor of the *Edinburgh Review* from 1852 until 1855, and he was the author of many books, the most valuable of which is *Essays on the Administration of Great Britain from 1783 to 1830*. His *Letters* were edited by his brother Gilbert, who succeeded him in the baronetcy (1870).

Lewis, Sir George Henry (1833-1911), an English solicitor of Jewish extraction. He became a member of the firm Lewis and Lewis. He soon distinguished himself as an advocate in the police court cases, and the reputation he obtained soon made the firm famous. In almost every important case he was consulted by one side or other, and he soon became more distinguished for the cases he kept out of court than those he fought. He was a personal friend of

King Edward and a popular figure in general society. Before his death he carefully destroyed all the records of the many cases upon which he had advised.

Lewis, Matthew Gregory (1775-1818), an English author, born in London; was attaché to the British embassy at the Hague in 1794, and in the following year published *The Monk*, which attracted much attention, and made its author famous. He wrote plays and poems, but these did not achieve any lasting success, although *Castle Spectre* ran at Drury Lane for sixty nights; but it is as the author of *The Monk*, and by virtue of that book alone, that he has a niche in the annals of English literature. His *Life and Correspondence* was published in 1839.

Lewisham, a suburb of London, and a parl. and metropolitan bor. since 1885, situated in Kent, 6 m. S.S.E. of Charing Cross. Pop. (1911) 160,843.

Lewis River (U.S.A.), *see* SNAKE RIVER.

Lewiston: 1. A city of Androscoggin co., Maine, U.S.A., on Androscoggin R., opposite Auburn. The river here falls about 60 ft., affording water-power used in the manufacture of cottons and woollens. Pop. (1910) 26,247. 2. The c
Pennsylvania, U.S
44 m. N.W. of Ha
steel works, blast f
and tanneries.
3. The cap. of Nez
U.S.A., at the confluence of Snake and Clearwater rivers, 30 m. S. of Moscow. Mining centre. Pop. (1910) 6043.

Lexicon, *see* DICTIONARY.

Lexington: 1. Cap. city of Fayette co., Kentucky, U.S.A., 75 m. S.E. of Louisville. There are manufactures of carriages, bagging, tobacco, liquors, flour, etc., and the town contains Kentucky University. Pop. (1910) 35,099. 2. A tn. of Middlesex co., Massachusetts, U.S.A., 11 m. N.W. of Boston. Pop. (1910) 4918. 3. The cap. of Lafayette co., Missouri, U.S.A., on Missouri R., 38 m. N.E. of Kansas city. Hemp is grown and coal mined in the district. Pop. (1910) 5242.

Lex Loci, a phrase used in private international law on the extraterritorial application of legal rights (*see* COMITY) to denote the principle in which the law of one country is applied to decide cases tried by the tribunals of another country. *Lex loci rei sitæ* denotes the principle on which questions relating to real property are decided by the real property law of the place where the property is situate; *l.l. actus* denotes the law of the place where a legal transaction took place. The principal species of the *l.l. actus* are the *l.l. contractus*, or the law of the place where a contract was made, or its terms finally agreed upon; *l.l. delicti commissi*, or law of the place where a civil injury was committed; *l.l. solutionis*, or law of the place where a contract was to be performed. The abbreviated form, *l.l.*, is generally appropriated to the *l.l. contractus*. The general presumption is that in the absence of express terms to the contrary, a contract is to be performed at the place where it is made, and that its nature, the interpretation of its terms, and its validity generally, are to be determined by the laws of that place, and where, therefore, a place of performance is specified the law of that place will govern the interpretation and validity of the contract and not the *lex contractus;* and where the law of the place of performance and that of the place where the contract was entered into differ, it is presumed that the parties intended the contract to be governed by the principles of the former. In the case of actions in English courts on bills of exchange, the net result of the Bills of Exchange Act, 1882, is that the law of the place where an act is to be done is to govern the per
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Lex Talionis, the law of retaliation, which finds expression in the Mosaic dispensation of an eye for an eye, etc. Something of the principle is to be found underlying Bentham's celebrated *Theory of Punishment*. Whether punishment in kind does most adequately fit the crime, depends on whether one's individual theory of punishment is vindictive, retributive, deterrent, morbid, or otherwise. L. T. in modern international law includes (*a*) *amicable retaliation*, or retaliatory acts corresponding to legal but discourteous acts of another nation (called also *retorsion de droit*), and (*b*) *vindictive retaliation*, or *retorsio facti*, i.e., belligerent acts in kind.

Leyburn, a par. and market tn. of N. Riding of Yorkshire, England, 7¼ m. S.W. of Richmond. Pop. (1911) 6303.

Ley Ces Toria, Formosa, Himalayan Honeysuckle, or Flowering Nutmeg, a hardy deciduous shrub with handsome racemes of white or purple flowers, succeeded by purple berries which are eaten by game birds. A variety has pretty variegated leaves.

Leyden, or Leiden, a city of Holland

on the Old Rhine, 6 m. from the sea, 17 m. from Rotterdam, and with canal communication to both Rotterdam and Amsterdam. It is an ancient town. Its weaving establishments were very important [illegible] the end of the 15th century, Leyden baize and Leyden were familiar terms. These industries have declined, and linen and woollen manufactures are the most important, and there is also a considerable transit trade in butter and cheese. But in spite of these industries, L. is essentially an academic town, and contains the most important university of Holland. It was founded in 1575 as a reward to the inhabitants for their courageous defence against the Spaniards, and was for a long time one of the most famous schools of Europe, numbering among its professors Salmasius and Grotius. Connected with the university is a library containing over 190,000 volumes, and some very important Oriental and Greek MSS.; the botanic garden, founded in 1587; the observatory (1860); the museum of natural history; and the Egyptian museum. Pop. 58,523.

Leyden, John (1775-1811), a poet, physician, and Orientalist, born at Denholm, Roxburghshire; licensed as a preacher (1798). He contributed several noteworthy poems and translations to the *Edinburgh Literary Magazine*, and also contributed to Lewis' *Tales of Wonder*, 1801. In 1802 he assisted Scott in his *Border Minstrelsy*. In 1799 he had published a prose work, *Discoveries of Europeans in Northern and Western Africa*, in 1802 issued *Scottish Descriptive Poems*, and in 1803 *Scenes of Infancy, descriptive of Teviotdale*. In 1803 he went to India as assistant-surgeon at Madras; in 1804 was surgeon and naturalist on the Mysore and Travancore Survey; in 1806 settled at Calcutta; in 1807 published a valuable essay on Indo-Chinese, Indo-Persian, and Dekkan languages and literature; in 1809 became commissioner of the Court of Requests; in 1810 assay-master of the Mint at Calcutta, and in 1810 went to Java as interpreter to Lord Minto.

Leyden, Lucas van (1494-1533), *see* LUCAS VAN LEYDEN.

Leydenberg (Transvaal, S. Africa), *see* LYDENBERG.

Leyden Jar, *see* ELECTRICITY—*Electrostatics*.

Leyds, Wilhelm Johannes (*b.* 1859), a S. African statesman, born at Magelang, Java. In 1884 he became Attorney-General in the S. African Republic; in 1888, State Secretary; in 1889, Justice of Peace for the whole republic. He was re-elected State Secretary in 1893 and 1897, and became Minister Plenipotentiary of the S. African Republic. He has written several notable books on S. African and other legal ques-

De rechtsgrond der voor prcventieve

and *The First Annexation of the Transvaal*, 1906. He is a Doctor at Law (*cum laude*), and a commander of the Legion of Honour and several foreign orders.

Leyland, a par. in the co. of Lancashire, England, 4½ m. S. of Preston. It has cotton mills, bleaching yards, and agricultural trade. Pop. (1911) 8090.

Leyland Steamship Line, a company with many trans-Atlantic services, which sails under the British flag as a member of [illegible]

cantile Marine

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it took its present name, Mr. F. R. Leyland, one of [illegible]

ing control.

company at hi

1900 it amalgamated with the West India and Pacific Steam Navigation Company.

Leys, Jean Auguste Henri, Baron (1815-69), a Belgian painter, born at Antwerp. His paintings chiefly represent the dress and customs of ancient Flanders, and in his lifetime won for him many public honours.

Leyte: 1. A prov. of the Philippines, including the island of Leyte and smaller islands. Area 2896 sq. m. The island of Leyte is a detached peninsula of Samar, from which it is separated by the Strait of San Juanico. The coasts are high and there are good natural harbours. Abacá, rice, and cocoa-nut oil are produced, and the mineral wealth includes gold, magnetite, and sulphur. Cap. Tacloban. Pop. 390,000. 2. Pueblo on N. coast of above island, near Leyte R., 30 m. N.W. of Tacloban. Pop. 7000.

Leyton, a par. and tn. of Essex, forming one of the north-eastern suburbs of London, situated on the l.b. of the Lea. The parish includes also the district of Leytonstone to the E. Roman remains have been found in the vicinity. Pop. (1911) 124,736.

Leze-majesty (Norman-French, from Lat. *læsa majestas*, high treason), in jurisprudence, refers to any crime committed against a sovereign power. Amongst the Romans it denoted political misdemeanours, acts of rebellion, and similar offences against the majesty of the empire. It is now frequently used in a general sense as a term for an insult.

Lezignan, a tn. of Aude, France, 13 m. W. of Narbonne, and has

important distilleries and timber trade. Pop. 6300.

Lhasa, or Lhassa (' God's ground '), the cap. of Tibet. It is situated on a fertile plain, 11,830 ft. above the sea-level, and is girt about with barren hills. A little to the S. flows the Kyichu, which empties into the great Tsangpo, some 40 m. to the S.W. The lines of parallel of this ' Forbidden City ' are 29° 39' N., and 91° 5' E. Until the British armed mission of 1904 advanced into the interior of Tibet for the purpose of arranging a commercial treaty, Europeans had not penetrated to L., which was, therefore, wrapped in a veil of impenetrable mystery and romance. A Chinese commandant of troops resides in the capital as a reminder of Chinese domination; otherwise the administration is in the hands of Tibetan officials. These latter bow to the authority of the Dalai Lama, who rules by virtue of his position as supreme head of the Lamaist Church. After the British expedition, this potentate fled to India, and at the close of 1911 was still a fugitive. Meanwhile the Chinese have deposed him and been roused, by what they regard as British trespass on their domain, into an effort to substantialise that Tibetan suzerainty which through lethargy and sloth has long since dwindled to a shadow. The actual population of L. is not much over 20,000, and is evidently diminishing. But the fact that it is the Mecca of Lamaism—a debased form of Buddhism—draws students and devotees from all parts [illegible] and Tibet, and from the [illegible] steppes, which reach Balkhash to Manchuria, and thus the traveller will find the public places thronged with Orientals of every diversity of feature, language, and dress, and will sometimes find whole families encamping in the streets, and the surrounding plateau strewn with the black tents of pilgrims from afar. The inhabitants include Tibetans, Chinese, Mongolians, Nepalese, and Ladakis. Most are engaged in weaving stuffs from native wools, but the potters also form a busy class, and the Nepalese are excellent gold and silver smiths. Commerce is largely concentrated in the hands of Mohammedans and foreigners. ' All roads,' so runs the adage, ' lead to Lhasa,' and in December a steady stream of merchants pours along each one of them into the metropolis. Some bring tea and silk stuffs from China; others silks and carpets from Siningfu. From Sikkim they carry rice and tobacco, and their freights of merchandise also include Russian goods, precious stones, and furniture.

Description.—From the W., Lhasa is approached through a picturesque gateway, which pierces a ' curtain of rock.' When this is passed the splendid palace of the Dalai Lama comes into view. It is called the Potala, and is a majestic pile of red and white buildings, covering a hill-side from top to bottom with its terraces, its buttressed battlements, and many-windowed walls. It is approached on either side by a broad, stone stairway, which zigzags up to the outward-sloping walls. The Jokhang, or great temple of the ' Jo,' or Buddha, which is the ' Lateran of Lamaism,' is situated in the market-place, in the very heart of the city. Its exterior is unimpressive, ' a cluster of squat buildings with glittering gilded roofs,' but within are found jewelled lamps, highly-wrought gold and silver vessels, and richly-decorated chapels, images, and shrines. The private houses are mostly of sun-dried brick and clay, whitewash and bands of red and yellow entering largely into their colour scheme. The general appearance is one of utmost squalor; the avenues are full of filthy, hungry dogs, and pigs wander up and down the dirty streets. There are no pavements, nor drains, and the common two-storied dwellings, whose lower halves are windowless, are begrimed with soot, and repulsive through their stench. L. is a refuge of monks and lamas. There are monasteries within, but the more famous lie some few miles distant. Of these latter the most revered are Samye [illegible] ldest convent of [illegible] of the largest [illegible] in the world; Sera, and Galdan.

History.—The Dalai Lamas did not make L. their Vatican till the 17th century. Since the days of Nagwang Lobzang, the fifth Dalai Lama (*d* 1681), his successors have dwelt in his Potala and have continued to exercise their religious tyranny over an ignorant and credulous people, who can have advanced little since the middle ages. L., however, has been the political capital since the days of King Srong-tsan-gampo, who flourished in the 7th century, and who first taught the Tibetans about Buddha. A monument recording a peace made on equal terms between the sovereign of Tibet and the Great T'ang, emperor of China, in 822, refers to the heyday of L.'s independance and prosperity. From that date the monarchy declined and yielded to a state of chaos, where central authority was no longer respected, and every town was the victim of its own despotic priests.

Lherzolite, in petrology, a fine-

grained, dark green or black rock, often granulitic, and consisting of olivine, chrome-diopside, and enstatite, and accessory picotite or chromite, and belonging to the peridotites. First described from Lherz, in the Pyrenees.

L'Hôpital, Guillaume-François Antoine (1661-1704), Marquis de Sainte-Mesme and Comte d'Entremont, a French mathematician, born in Paris; entered the army, but was obliged to leave it on account of [illegible]. He had always studie[illegible] with great zeal, and in[illegible] acquaintance of John[illegible] whom he learnt the p[illegible] infinitesimal calculus. His works include *L'Analyse des infinimens petits*, 1693, the earliest systematical treatise on the differential calculus; *Les Sections Coniques; Les Lieux Géométriques, La Construction des Equations*, and *Une Theorie des Courbes Méchaniques*.

L'Hôpital, Michel de (*c.* 1504-73), a French statesman, born at Aigueperse, Auvergne; studied law at Toulouse and Padua; became an advocate in Paris in 1534. He rapidly rose to positions of honour, becoming successively auditor of the Rota at Rome, counsellor of the parliament of Paris, ambassador for Henry II. at the Council of Trent (1547-48), steward in the household of the Duchess of Barri, superintendent of finances (1554), member of the Council of State (1559), and Chancellor of France (1560). He resigned in 1568, his moderation having brought him into disfavour with the Catholics.

Li, a Chinese measure of length, just over one-third of an English mile. Also a small coin or weight of about 0·583 grain.

Liability of Employers, *see* EMPLOYERS' LIABILITY.

Lia Fail, the 'stone of destiny,' or coronation stone. In Irish legend it is identified with the stone on which Jacob slept. The Dedannans, who had migrated from Greece to Scandinavia, Scotland, and finally Ireland, brought it there and set it up at Tara, where it became the [illegible] stone of the Irish kings. [illegible] land was called Inisfa[illegible] Fail). In 513 Fergus, the first Scottish king, removed it to Dunstaffnage Castle in Scotland. It became the Scottish coronation stone at Scone, and was brought to England and placed in Westminster Abbey by James VI.

Liakhov Islands, *see* NEW SIBERIA ISLANDS.

Liana, or Liane (Fr. *lier*, to bind), the name given generally to any climbing or twining plant which grows in tropical forests. A well-known example may be found in the genus *Smilax*.

Liao-yang, a city of Manchuria, lies in the prov. of Shing-king, between Mukden and Port Arthur. It was the scene of a great Russian defeat in 1904, when it fell into the hands of the Japanese. Pop. (estimated) 100,000.

Libanius (*c.* 314 – *c.* 392), a Greek sophist, born at Antioch; lived and [illegible] mainly in Constantinople, but [illegible] Athens and Antioch. In re[illegible] he was a pagan, and supported [illegible] ews and plans of the Emperor [illegible] with regard to the Christians, but in private life he was mild and tolerant, and always maintained a friendly relation towards St. Basil and [illegible] his pupils. His [illegible] etc., have beer[illegible] ols., 1791-97), and his letters by J. C. Wolf (1738). *See* Lives by Petit (1866), and Sievers (1868).

Libanon, or Libanus, *see* LEBANON, MOUNT.

Libation (Lat. *libatio*, a drink-offering), the wine or other liquid poured out in honour of a deity. In classic times public sacrifices were often accompanied by Ls.; the custom was also carried out privately, and the Romans at their meals made drink-offerings to the household gods. A similar practice prevailed among the Jews, who poured oil or wine upon their altars. With the Greeks, the L. sometimes consisted of milk, honey, etc.

Libau, Libava, or Leepaja, a seaport of Courland gov., Russia, on a bank separating Lake Libau from the Baltic Sea, 105 m. S.W. of Mitau. Its artificial harbour is almost ice free. L. is connected by rail with the [illegible] sia, [illegible] def[illegible] [illegible] gn export trade, in which it has taken the place of Königsberg, being especially large. It is visited by about 2000 ships per annum, and has exports of the value of about £3,000,000, while there is also a con[illegible] coasting trade. The port [illegible] ortified and used as a naval [illegible] The chief industries are the manuf. of agricultural implements, and flour and lumber milling. The town has some importance as a watering-place. Pop. 64,502.

Libavius, Andreas (1560-1616), a German chemist, born at Halle. He became professor of natural history at Coburg. He was a pupil of Paracelsus, and wrote many therapeutic treatises, notably *Alchymia recognita*, 1597. His most famous discovery was the 'liquor of Libavius,'

or oxide of gold, by means of which he produced red glass.

Libel, *see* DEFAMATION.

Libellatici, the name given to those Christians who, during the persecution of Decius (249-52 A.D.), evaded the edicts directed against their faith by obtaining *libelli*, or official statements that they had sacrificed to the Imperial gods.

Libellula, the typical genus of the family Libellulidæ, or dragon flies (*q.v.*). Named by Linnæus from the supposed resemblance of the expanded wings to an open book.

Liber, a term applied in botany to the inner bark of exogenous stems. It is synonymous with phlœm and bast (*q.v.*).

Liber, in Roman mythology, the deity corresponding to the Greek Dionysus. Originally the Italian god of the productivity of nature, and especially of the vine, so called from the unrestrained character of his worship, L. was identified with Dionysus when the Hellenic cult of Demeter spread to Italy. A temple was built to L., Libera, and Ceres near the Circus Flaminius, and a festival, called the 'Liberalia,' was held in Rome on March 17. In the rural parts a feast to L. and Libera (Gk. *Persephone*) was held at the time of the grape-harvest, the first-fruits of which were offered up, together with cakes of meal, honey, and oil. At the Liberalia the youths used to lay aside the *toga prætexta* and assume the *toga libera*, or *virilis*. *See* Ovid. *Fasti*, iii.

Liberalism. Modern L., according to its professed exponents, stands for such government by the people as, conformably to the organic concept of society, tends to a genuine social progress. It necessarily began as an emancipating and more or less destructive undercurrent, since a true democracy could hardly exist while caste barriers remained, while trade was shackled in the interests of monopolists and the king, and while the observance of religion was subjected to invidious and discriminating tests. Hence it is that L. and liberty are intimately bound up with one another, though the exact connotation of the latter term is notoriously difficult to determine. Unfettered liberty in a liberal sense cannot be suffered in any civilised state. It is essentially a condition of restraints within limits, such restraints being imposed on any one individual's action as are deemed instrumental in securing a like measure of liberty to all other persons. Liberty on its positive side has been defined by Mr. Asquith (speech at the conference of delegates of the Liberal Association of East Fife, 1907) to mean 'the power of initiative, the free play of intelligences and wills, the right, so long as a man did not become a danger or a nuisance to the community, to use as he thought best the faculties of his nature, or his brain, and the opportunities of his life.' Some go further and postulate an equality of facilities of opportunity. But a consideration of the immutable foundations of human nature will readily convince all but those attached to at least one of the different Socialist schools of thought, of the impossibility of any such Utopian settlement of human inequalities. It is in this very attitude towards liberty, that L. and Socialism part company. L. is a practical empirical and no doubt somewhat

systematic and clean-cut, and that form of it which Professor Hobhouse calls 'official' Socialism as contradistinguished to that 'mechanical' Socialism which 'conceives a logically developed system of the control of industry by government, dreams of an ideal polity which, whatever other merits it may possess, is the very negation of liberty and democracy. It is not unjustly regarded by Professor Hobhouse as a creed which despises ideals of liberty on the confused assumption that liberty and competition are indistinguishable, and hence the Socialistic organisation of the 'helpless and feeble race of mankind,' if it ever became a political fact, would be conducted by an aristocracy of character and intellect working through committees of union and progress, backed in the last resort by some one or more dominating master minds. L., on the other hand, is based on no such immoderate belief in the inherent superiority of any governing class or body; it is antagonistic to all 'standardisation,' and such Liberal-Socialism as may be said to exist must be democratic and must 'emerge from the efforts of society as a whole to secure a fuller measure of justice and a bette
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incompatible with this, whatever else it may be, is not L. as understood by those who practise it, or by those who write about it. Government by the 'Superior Person' might well indeed be that wild form of Radicalism denounced by Faguet, who sees in it nothing but the elevation to high places of mean intellects. Mr. Asquith publicly stated the distinction between L. and Socialism

in much the same terms, and based the power of L. to combat such Socialism as spelt the negation of liberty upon the fact that the Liberal party was free and unfettered by entangling alliances with those 'interests, monopolies, classes, and privileges which with a kind of network of interdependence, covered the frame of society and made progress with social reforms seem sometimes desperate.' Whether *modern L. truly connotes the above* things can only depend upon the measures passed or proposed by Liberal statesmen, but before applying *such a test, it is necessary to* examine, however briefly and inadequately, not only the historical development of L. as above stated, but to define more fully the paradoxical idea of liberty connoting in its various senses restraints imposed from without.

Before the dawn of anything approaching L., society was constituted on an authoritarian basis, with the king or other supreme magistrate exercising powers over and above the law, while a large part of the people were merely slaves, enjoying, therefore, no civic freedom of any kind. In England the king in feudal times regarded the whole country as his personal domain, to parcel out to whom and how he chose. But with the disappearance of serfdom and the migration of the peasant from the soil to the towns, begins the protest of the governed [illegible] er, and [illegible] olitical, is the historic beginning of L. (Hobhouse). It is not too much to say that it has for centuries been a merely destructive and criticising influence, and that it is only within comparatively recent years that the path has been in any way cleared for constructive work. As to what arbitrary civil government was before Liberal ideas assailed it, may be readily inferred from Locke's treatise. The first step in civilised [illegible] t is accomplished as soon [illegible] t law is essentia [illegible] and it is clear that only L. or some other progressive political creed can have accomplished that initial step. But unless law is impartially applied, liberty is not guaranteed, whatever the ostensible form of government, for liberty implies equality. For the most part English people are equal in the eye of [illegible] occasional [illegible] point to a [illegible] rich. Modern L. is not, however, satisfied that a genuine equality can exist until not only all have a share in government, but an equal share therein. Hence the demand for a male adult suffrage bill or (with some) the extension of the franchise to women also. A similar striking extension or carrying to their logical consequences of old principles has characterised what Professor Hobhouse styles 'fiscal liberty,' or the liberty which involved as its first realisation the acceptance by the king of the principle of 'no taxation *without representation.' It has long* been a constitutional dogma that only the Commons can initiate a money bill, and their control over *such bills has for long been rendered* more effective by the convention that the Upper House had no power to amend such a bill, though that house might reject the bill *in toto.* Modern L., however, demanded a 'broadening of the basis of taxation.' The reason was apparent. Principles of fiscal liberty were becoming meaningless if every fresh budget did no more than reshuffle existing duties, leaving possible sources of untold wealth inviolate in the interests of the land and liquor monopolists. Modern L. regards governmental functions as going beyond the mere purpose of maintaining order, restraining men from violence, and securing person and property against foreign and domestic enemies. That narrow outlook was in accord with the *laissez-faire* doctrinaires, Cobden, Mill, and others, but with a more generous conception of governmental duty came the need for increased taxation, and with that need, controversies as to its incidence. Prior to 1906 land was sacred, and when Mr. Lloyd George bade fair to adopt that part of the teaching of Henry George which postulates the state ownership of increment value (*q.v.*) of land, it was clear that the *House of Lords would reject any* budget containing taxes incorporating such a principle, and by no means certain that some sort of precedent *could not be found for saying that a* land tax *per* [illegible] going beyond [illegible] bound of an [illegible] This attitude [illegible] of the princip[illegible] the knowledge that the Lords would never pass the Finance Bill of 1909, induced the Liberals to seek re-election on the issue of the land taxes alone. The direct outcome of their return to office was the Parlia[illegible] Act (*see* LEGISLATION, PARLIA[illegible] an Act which *inter alia* the fiscal liberty of the Commons beyond doubt.

With religious liberty, personal liberty in the sense of freedom from

inquisition into opinions is intimately woven. It may be unfair to religious tolerance entirely doubtless the intense feelin papacy which imbued all Englishmen in times by no means remote, had much to do with the sentiment. But at the same time the Conservatism of to-day is peculiarly the political atmosphere in which the Church party thrives, a fact which partly exlpains the bitter hostility of the Opposition to those Education Bills which were designed to abolish religious teaching in state-aided schools, *though in so far as the Opposition believed that the party in power were merely subsidising some particular Nonconformist creed at the expense of orthodoxy, that Opposition was, at least, in the interests of true freedom.* On the larger question of liberty of thought generally, it is curious to note that the Liberal government of to-day was guilty of a probably unintentional infraction of that freedom which in Faguet's words is negated by any inquisition which compels a man under a penalty to disclose opinions. The government in pursuance of its land tax schemes issued a form (popularly known as Form IV.), whic and void by the (*inter alia*) that owners *under a* annual value of such statement amount to no more than an opinion (*sec* LAND TAXES).

In his historical review of L., Professor Hobhouse shows how Liberal movement has often sought to dispense with general principles, a fact which explains its frequent inconsistencies, inconsistencies which, however, must inevitably exist in any upward or progressive movement acting partly through abolition and partly through compromise. Such theory as modern L. has is one inducted from the practical needs of the governed in preference to theory based on the empty forms of constitutional dogma. Many modern liberals, notably M. Faguet, abrogate speculative foundations altogether, and look solely to social utility. But modern L. requires something more coherent and scientific, and that something is to be sought in an ordered conception of the mutual interdependence of the State and the Individual. 'The individual owes the state the duty of industriously working for himself and his family, . . . on the other side, society owes to him the means of maintaining a civilised standard of life, and this debt is not adequately discharged by leaving him to secure such wages as he can in the higgling of the market' (Hobhouse). As to what ocial utility or the ulti- f society as a whole, expounded by its lead- wisely refrains from 'common happiness' theories, and postulates no more than the liberation as far as possible to all alike of living spiritual energy, that the common good in whatever it may consist may be realised in its fulness through the common will.

Perhaps the greatest names in the past history of L. are those of Cobden and Bright, Mill and Gladstone. It is hardly necessary to mention that the great work of the Cobden school was the emancipation of foreign trade from tariffs. That school was pre-eminently practical, as might have been expected from men so strongly influenced by Benthamite teaching. But whereas Bentham sunk all considerations of right in those of the greatest happiness of the greatest number, denying to the individual any inherent right to a share in government other than that which rests on the question of the distribution of the means of happiness, and denying equally the validity of any indefeasible individual liberty so far irreconcilable with the same ilitarian end, the Cobdenites ab- ained from enunciations of funda- ental principles altogether, beyond ostulating the unrestrained action the individual as the pivot upon which all progress turned, though it was admitted that the principles of free contract could not apply universally, *e.g.* to children. But as these exceptions to freedom of contract admit of endless extension, it is easy to see wherein lay the whole weakness of the doctrine of *laissez-faire*. Hence modern L., which does not contemplate as ethically right either the weighing-up of the happiness of one individual against that of another, nor the implications of the assumed free competition of isolated individuals, has at all points subjected the industrial system to close state surveillance. And herein lies the whole idea of modern L. in its relation to liberty, a term which is more fitly changed to the phrase 'social freedom'—a freedom 'to choose among those lines of activity which do not involve injury to others.' Thus the curtailment of the freedom of the few spells the freedom of the many, a result which is morally justifiable if the community, as a whole, gains in ultimate social harmony. Into all the ramifications of this underlying principle of L. it is impossible to enter in this article, but it is to be noted that the Cobden school, consistently with its theory of free con-

tract, advocated the removal of restrictions on the free exchange of land, an advocacy which has been carried by modern Liberals far beyond the bounds set by the disciples of Cobden (*see* LAND; INCREMENT VALUE; LAND TAXES; LAND LAWS). A shallow kind of criticism may be prompted to inquire how far the freeing of land for small holdings and the absorption by the state of a fractional part of increment value is consistent with any theory of Individualism as opposed to Collectivism or one kind of Social-

who reprobates all action by Conservative governments directly or indirectly against monopoly can logically repudiate the platitude that we are all necessarily Socialists to a certain extent.

Modern L. probably owes as much to Mill as to any other thinker, especially as it can refer such of its principles as are almost purely socialist to Mill's ideas of a co-operative organisation of society to secure the amelioration of the position of the wage-earners, and the extension of the franchise to the whole of the people. Gladstone was a Cobdenite in economics, and it is in relation to international dealings that he struck his original note. Gladstone's foreign policy was radically opposed to that of 'annexation,' and jingoism (*q.v.*), and with him that alone was internationally right which was according to the dictates of conscience, an ideal which contemplates every man as a citizen, not of a narrow circumscribed state, but rather as a citizen of a possible world-state. These views have found expression to-day in the grant of responsible government to S. Africa, and a greater measure of

The keynote of modern L. in the view of Professor Hobhouse lies in the phrase of the philosopher Green, that the common good to which each man's rights are subordinate is a good in which each man has a share, or, in other words, that a man finds his own good in the common good. This, says Professor Hobhouse, is the fundamental postulate of the organic view of society and implies that the 'full development of personality is practically possible not for one man only but for all members of a community,' and modern L. is concerned to show that this possible ethical harmony and social ideal are attainable by discipline and the all-round improvement of the conditions of life. This conception involves an intricate

inquiry into the sphere of state compulsion, for it is axiomatic among Liberals that no force can compel growth. Professor Hobhouse thinks that compulsion is necessary wherever outward conformity is of value to the end of the general will. It is, however, at least doubtful whether compulsion and spontaneous growth are reconcilable. Force alone and not the common will has legalised trade unions, but no social reformer of to-day will deny the utility of such unions in the furtherance of indus-

conditions of life. Again, who is enough to determine when outconformity is of value. It seems a mere evasion to say that there is no true opposition between liberty as such and control as such, or that the 'true opposition is between the control that cramps the personal life and spiritual order, and the control that is aimed at securing the external and material conditions of their free development.' For the present distribution of property alone is sufficient to hamper personality and the spiritual life, but no Liberal pretends that there

securing
condition
convince
tion of such conditions in favour of some will not involve a delimitation of the external conditions of the spiritual growth of another. However that may be, the practical expression of the various related principles of L. in the shape of legislation proves that, in the minds of latter-day Liberals, L. is a living and coherent political creed. The work of embodying the ideals of L. in Acts of Parliament was long postponed, and has been the work almost exclusively of the last few years, an effective check during the last twenty years of the 19th century to domestic legislation of all kinds being offered first by the Home Rule question, and later by the trumpet-call of *Imperialism* (*q.v.*). Liberals on the reaction of the electoral tide in their favour in 1906 at once set to work to carry out their ideals, and the seven ensuing years saw the triumphant passing, *inter alia*, of Acts to secure a minimum wage in various trades, the establishment of labour exchanges, a scheme of national insurance, the provision of old age pensions, the

to S. Africa,
union funds
ortuous acts
of their agents, facilities for the provision of small holdings and allotments, the taxation of the increment value of land, the increase of liquor

duties, and the virtual explosion of the inflated value of 'tied houses,' the curtailment of the legislative power of the House of Lords, the consolidation of free trade principles, the practical abolit[illegible] teaching in state-aid[illegible] better housing of the [illegible] and a number of democratic reforms.

Bibliography.—G. Lowes Dickinson, *Liberty and Justice;* Faguet, *Liberalism;* Hobhouse, *Liberalism;* Locke, *On Civil Government;* Bentham, *Principles of Morals and Legislation;* T. H. Green, *Liberal Legislation and Freedom of Contract;* Hirst, *The Manchester School;* Mill, *Principles of Political Economy; Liberty; Representative Government.*

Liberal League, a despairing offshoot of the leaderless Liberal party, formed in 1901 when as yet that party was still 'in the wilderness.' Judged by the present accomplishments and tendencies of Liberalism (*q.v.*), the L. L. was distinctly retrogressive, for its principal founder, the Earl of Rosebery, in more or less definitively breaking away together with his associates, Sir Edward Grey and Mr. Asquith, from the more numerous body of Liberals in the 'tabernacle' of Sir Henry Campbell-Bannerman, elected to expunge Home Rule from the party creed, and to side-track anything that militated against Liberal Imperialism. Late in 1905, however, when the want of solidarity in the Liberal Opposition appeared to have given way to a general agreement, Lord Rosebery, on the question of the party attitude towards Home Rule again becoming acute, once more declined to have anything to do with it, and left Sir Henry Campbell-Bannerman in sole command of the party's future, which now that the flower of the L. L. in response to Lord Rosebery's exhortations of loyalty to the official leader, Sir Henry, had thrown in their lot with the latter, was shortly destined to materialise in an era of almost unprecedented success. Shortly after this, when Lord Rosebery's Liberalism fell short of the progressive demands of the historic Budget of 1909, the L. L. was dissolved.

Liberal Unionists, *see* POLITICAL PARTIES.

Liberi, Pietro (1605-87), called 'il Libertino,' an Italian painter, born at Padua, and studied under Padovanino. His paintings exhibit great variety of subjects and treatment, the most notable of them being 'The Battle of the Dardanelles,' 'Venus,' and '[illegible]'

Libe[illegible] [illegible] in W. Africa [illegible] British colony of Sierra Leone on the N.W., and the French colony of the Ivory Coast on the S.E., and extending some 300 m. along the northern coast of Guinea, with the R. Mano on the [illegible] the Kavalli on the E. From time the boundaries of the frontier have been marked Franco-Liberian treaties, and the present demarcation was fixed in 1911. The coast-line is very much indented, and rocks make it dangerous; the chief headlands are Cape Mount, 1050 ft. above sea-level, with the lagoon known as Fisherman Lake at its base, Cape Mesurado, 350 ft., and Cape Palmas, 200 ft. above the sea. Beyond the coast the surface is mountainous, some of the elevations reaching over 6000 ft. The principal rivers, besides the three mentioned above, are the Cestos, of which the Nuon has now been discovered to be the upper course (1908), the St. John, and the St. Paul. Most of these have rapids or falls which prevent navigation, the Kavalli being the only one serviceable. The hinterland is composed of vast forests, the Nidi forest possessing *Funtumia* rubber trees. Many rare species of animals are found, and the vegetation is unusually rich and beautiful. So far little has been done with regard to the mineral wealth of the district, there are indications of gold in most of the rivers, also of bitumen; sapphires have been found, corundum being met with in many places; lead and iron are also found.

In 1821 the American Colonisation Society selected Cape Mesurado to send the American freed negro slaves to, and from that time onward they continued to be sent there. The American colony was founded by Jehudi Ashmun between 1822-28, the name L. being given it in 1824 by the Rev. R. R. Gurley. Until 1857 there were two republics, L. and Maryland. Troubles on the frontier led eventually to an American Commission being sent to L. by President Roosevelt in 1909, and this resulted in America taking over the finances, military organisation, and the boundary question. The republic is now governed by a president, elected for four years, eight senators, and thirteen representatives. There are local magistrates, courts of common pleas, quarterly courts (five), and a supreme court. British customs officers have been lent to L. and there is a gunboat commanded by an Englishman used for preventive service, and the language spoken is English. There is a large native population (2,000,000) which includes the Kru and Gora tribes. Some of the forest tribes still practise cannibalism and go naked.

They are mostly handsome and of fine physique. Many of them are Mohammedans. The area is 41,000 sq. m., and the Americo-Liberian pop. 15,000, besides about 40,000 civilised and Christianised negroes.

See Sir Harry Johnston's *Liberia* (2 vols., London), 1906; and Maurice Delafosse, *Vocabulaires comparatifs de plus de 60 langues et dialectes parlé à la côte d'Ivoire et dans la région limitrophe*, 1904.

Liberius, St. (352-366), pope, who succeeded Julius I. He was banished to Thrace (355) by Emperor Constantius for refusing to excommunicate Athanasius. About 357 he submitted, and was allowed to return to Rome and share office with Felix, who soon resigned. *See* for some of L.'s correspondence, Constant's *Epistolæ Romanorum Pontificum*, 1821; *see also* Döllinger's *Papstfabeln*, 1890.

Liber Regis (Valor Ecclesiasticus), a book compiled in 1535 on the eve of the Reformation which contains an account of the valuation of the whole ecclesiastical property of England and Wales. The authorisation for the work was an Act providing for the payment to the king as the supreme head of the Church of England, not only of first-fruits and benefices, but of one-tenth of the entire property of the Church. An abridgment of this record entitled *Liber Valorum*, was the foundation of the *Liber Regis, vel Thesaurus Rerum Ecclesiasticarum* (1786), by one John Bacon, receiver of first-fruits. Queen Anne by giving up first-fruits and tenths to trustees, who were empowered to administer them for the benefit of the poorer clergy, thereby made them part of the fund that has ever since been known as Queen Anne's Bounty.

Libertad, or La Libertad, a dept. in the S.W. of San Salvador, and also the chief seaport of that dept. The Pacific Ocean forms the S. boundary of the colony, which is very mountainous. There are crops of rice, coffee, sugar, etc., which constitute a considerable export trade; and silver and gold mines are also found. La Libertad, the port, is 16 m. S.S.W. of Nueva San Salvador. Pop. of dept., 49,000; of tn., 2000.

Liberté, a French battleship of the first class, was launched in 1905, and has a displacement of 14,865 tons.

Liberties, The Upper and Lower, two electoral divisions of Ireland, in the co. and dist. of Londonderry.

Liberton, a vil. 2½ m. S.S.E. of Edinburgh. It has an ancient parish church and convent. In the neigh- coal mines.

[illegible] senby, Sir (*b.* 1813), founder of the furnishing and dress fabric firm of Liberty & Co., Ltd., born in Chesham, Bucks. He is a director of the British Produce Supply Association; a vice-president of the Silk Association of Great Britain and Ireland; and chairman of the Advisory Committee of the Royal School of Art Needlework. He has travelled in the Far East, and has been awarded medals for papers read before the Society of Arts in 1890 and 1900. He is specially interested in the development of the decorative arts as applied to furniture and costume, and the advancement of British silk and other home industries. He founded the firm of Liberty & Co., Ltd., in 1879.

Liberty, Equality, Fraternity (Fr. *liberté,* [illegible] of the [illegible] the fi[illegible] adopte[illegible] faith, [illegible] of the [illegible] centur[illegible] merely equality for rich and poor in the eyes of the law and the absence of class privileges. A book with this title was published by Sir J. F. Stephen in 1873.

Liberty of the Press, *see* PRESS, FREEDOM OF.

Liberum Veto, became an integral part of the Polish constitution at some time in the earlier half of the 17th century. It was adopted in the diet by the 'szlachta,' or gentry. The political equality of all Polish gentlemen was taken for granted, and accordingly any one of them might say 'nie pozwalam' (I disapprove) to any measure introduced into the diet, and thus compass the diet's dissolution: for having assumed the principle of absolute equality it followed that every bill must receive unanimous support before passing into law. The L. V. was first used in 1652, and was finally abolished by the revolution of 1791.

Libidibi, *see* DIVI DIVI.

Libitina, a Roman goddess who presided over funeral ceremonies, and her temple at Rome contained all the symbols of mourning. The door through which wounded gladiators were carried from the arena was called by the Romans the Gateway of Libertina.

Libmanan, a pueblo of the Philippine Is., and is situated in the Camarines prov., Luzon, on the Vicol. Pop. 17,500.

Libourne, a tn. and river port of Gironde dept., France, at the confluence of the Dordogne and the Isle, 17 m. E.N.E. of Bordeaux. One of the ancient free towns founded by the English (*c.* 1269), it is a thriving city. Manufs. include woollens and mili-

tary clothing; wine and brandy are exported. Pop. 19,500.

Libra (the Balance), the seventh sign of the zodiac. In the older Greek writers the Scorpion occupies two constellations of the zodiac, or rather the body of the animal occupies one, and the claws, *chelæ* (χηλαί), another. Though the chelæ were certainly a part of the Scorpion, yet they are often mentioned (as by Aratus, for instance) by themselves, as if they formed a distinct constellation. The word *chela* had several significations; so that it may have been by simple mistranslation that the Romans (according to Hyginus, Virgil, etc.) gave the name of L. to the part of the heavens in question, and drew back the claws of the Scorpion to make room for the scales. L. is surrounded by Scorpius, Ophiuchus, Virgo, Centaurus, and Lupus, and contains the well-known globular cluster Messier 5 which has as many as eighty-five short-period variables.

Libraries. The earliest collection of written works, apart from what we may call 'books,' appear to have been the official preservation of government and administrative records or archives, whose remains, found in ancient Babylonia, Egypt, and Crete, have proved of such inestimable value to the archæologist. Apart from their archives, both Assyria, in the great library of Assurbani-pal, and Egypt, in the religious and scientific L. attached to the temples, afford examples of L. of books proper. The greatest L. of the ancient world was that of Alexandria, where there were two branches, one in the Brucheion, originally the larger L., destroyed by fire accidentally when Julius Cæsar burnt the fleet; the other in the Serapeum, which subsequently became the chief L. This was the great collection said to have been destroyed by the Saracens (640 A.D.), but probably not many of the treasures had survived the destruction of the Brucheion in 273 or the pillaging of the Serapeum by the Christians in 390. The most famous of private L. was that of Aristotle, said to have ultimately found its way to Rome in the time of Sulla. Æmilius Paulus brought back the L. of the ..

emperors to establish public L., the Octavian and Palatine. Of those famous imperial L. was the Ulpian, founded by Trajan, which, housed in the baths of Diocletian, was destroyed by fire under Commodus. The great collection at Constantinople made by Constantine, Julian, and Theodosius formed a nucleus which was greatly enlarged, and from which much of ancient Greek learning came to the West after the capture of the city by the Turks.

During the early middle ages the collection and keeping of books and the maintenance of learning fell to the Church and to the monasteries, and the L. of the Benedictines, always renowned for their love of books, as at St. Gall, St. Henry, etc., were famous. The catalogues of many of these monastic L. have been preserved; thus we know that the monastery of Christ Church, Canterbury, had during the 13th and 14th centuries a L. containing some 3000 works. (For the management and arrangement of the early L., *see* J. Willis Clark, *The Care of Books*, and Abbot Gasquet, *The Old English Bible*.) An idea of the old form of L. may be seen still at Merton College, Oxford, at Cesena in N. Italy, and in the Laurentian Library at Florence. With the invention of printing the modern L. may be regarded as established. All great L. preserve among their most precious treasures the MS. relics of the past, and the incunabula, or early printed books, not only command enormous prices when any come into the public market, but are the object of the scholar's research for cataloguing and historical purposes. L. are, however, now chiefly regarded from the side of practical utility, and their system of arrangement, cataloguing, etc., is based on scientific principles by which their resources can be most readily available to the ever-growing needs of readers and students of every kind. Many of the great L. of the world receive separate articles in this encyclopædia; it must suffice to give a brief account under various countries of the most noteworthy, and to conclude with a reference to the public or free L. movement which has placed the learning of the past and present at the disposal of all classes.

The United Kingdom.—The L. of the British Museum dates from the acquirement of Sir Hans Sloane's collection in 1753, to which was added the great Cotton collection, acquired by the nation in 1700, and the L. of the kings of England, given in 1757 by George II., together with the invaluable right, shared by the Bodleian and other L., to a copy of every book entered at Stationers' Hall. In 1759 the museum L. was opened. George III.'s collection was presented by George IV. in 1823, and the splendid Grenville collection, by bequest, in 1896. At the present day, mainly due to the great work of the most famous of its librarians, Sir Anthony Panizzi, the L. boasts of

over 2,000,000 printed volumes and over 50,000 MSS. It takes rank as the greatest of all L., and perhaps chiefly for the reason that in every language its collection of books is the best outside its native country. The great circular reading-room, designed by Panizzi, was opened in 1857. Other great London L. are the Patent Office Library, the National Art and Science Libraries at South Kensington, the Guildhall Library, and, perhaps most useful of all, the London Library, founded in 1841, open to subscribers, which, unlike the others, issues books to borrowers. Its splendid collection of books, its well-arranged catalogues, and small subscription, make it an essential to all students and readers. Outside London are the National Library of Dublin and the Museum of Science and Art in Edinburgh among state public L. Next in rank and importance is the Bodleian Library at Oxford, opened by Sir Thomas Bodley in 1602. It obtained the right to a copy of every book entered at Stationers' Hall in 1610. The University Library at Cambridge dates from the 15th century; its first great benefaction was in 1475, when the Archbishop of York, Thomas Scott, erected a building which housed it until 1755. The University Library of Edinburgh dates from the 16th century, and that of Trinity College, Dublin, from the beginning of the 17th century. There are many fine endowed L., the Chetham Library at Manchester taking priority as perhaps the earliest (1653) free L. in England; the John Rylands Library, founded by Mrs. Rylands in memory of her husband, contains a wonderful collection of incunabula, the basis of which was the great Althorp Library collected by Earl Spencer. The L. of the various learned and other societies are in many cases of high value; perhaps that of the Faculty of Advocates, Edinburgh, is the most notable for its general character and valuable collections.

United States.—The national L. is the Library of Congress at Washington, first established in 1800, burned in the Capitol in 1814, burned again in 1851, and now housed in the most magnificent L. buildings in the world, opened in 1897
Smithsonian
1866. The earl
of Pennsylvania and New Hampshire (c. 1777), now every state possesses one, the largest being at Albany for New York State. Harvard (1638) and Yale (1701) possess magnificent university L., as do all the great universities and colleges, though of more modern standing. The great feature of American L. is the growth, wealth, and equipment of the municipal system; every town practically possesses one on a large scale, dealing with ample funds. It must suffice to mention the great L. of New York City and Boston. *See* NEW YORK.

Austria - Hungary.—The Imperial Public Library at Vienna is said to date from 1440, and to have been founded by the Emperor Frederick III. It contains a portion of a famous mediæval collection, that of Matthæus Corvinus of Hungary. Its printed volumes number over 1,000,000, with nearly 30,000 MSS. It also lends volumes to borrowers.

France.—The Bibliothèque Nationale is one of the great L. of the world and has of all great L. the longest history, though it may not be true that it dates from the collections of Charlemagne or of St. Louis. What is certain is that it contains a very large number of the collections of the French kings, and that it represents the Bibliothèque du Roi of times anterior to the French Revolution. It contains upwards of 3,000,000 volumes, a magnificent collection of MSS., prints, medals, and maps. Other great L. are those of the Arsenal, confiscated at the Revolution, the Mazarin Library, and that of the University, originally that of the Sorbonne, founded in 1762.

Germany.—Berlin possesses in the Royal Library, founded by Frederick William, the Great Elector, in 1661, one of the largest L. of the world. It possesses nearly 1,500,000 printed volumes and over 30,000 MSS. The new building housing this was opened in 1909. It is remarkable for its ready access to the public and its lending powers to borrowers. Other great state L. are those at Munich, Dresden, Leipzig, Stuttgart, etc., while the university and municipal L. are exceedingly numerous, well managed and equipped with ample funds.

Italy.—Chief in antiquity, in wealth of MSS. and printed rarities, and of inexhaustible treasures of archives and historical and other works is the Library of the Vatican at Rome. Its early history is broken by the removal of the popes with the books to Avignon, and its modern history dates back to the Renaissance popes, of whom may be mentioned Nicholas V., Sixtus IV., and Sixtus V., the founder of the present building in 1588. Printed books are said to number 400,000, MSS. nearly 40,000, of which the famous *Codex Vaticanus* of the Bible stands first, together with the great MSS. of Virgil, Terence, etc. The L. is open to the public, and since the papacy of Leo XIII. the archives also with certain reserva-

tions. Historically, and also for its valuable contents, the Vatican is succeeded in importance by the Biblioteca Mediceo Laurenziana at Florence, containing the collections of Cosimo, Pietro de' Medici, and Lorenzo the Magnificent. It was opened to the public in 1571, and contains some of the most precious classical MSS. in existence, including over 700 dating from before the 11th century, including a 4th-century Virgil and a 10th-century Homer. The largest modern L. in Italy is the Nazionale Centrale Vittorio Emmanuele at Rome, founded 1875, with nearly 1,000,000 volumes. Other important national or municipal L. are at Naples, Florence, Milan, etc., while all over Italy are numerous ancient L., containing great treasures, such as the specimens of early printing at Subiaco, the famous Biblioteca Ambrosiana at Milan, the great collection of archives, bulls, papal briefs, charters, etc., at Monte Cassino.

Spain.—The Biblioteca Nacional, Madrid, represents the former royal L., and contains some 600,000 volumes, with 30,000 MSS. The Escorial Library, once one of the greatest in Europe, suffered from fire and robbery after the French invasion of 1808.

Netherlands. — The Belgian chief state L. is the Bibliothèque Royale, Brussels, of which the nucleus was the L. of the Dukes of Burgundy and the archives of the Spanish occupation. The chief L. of Holland is the royal library, Koninklyke Bibliotheek, at the Hague, founded in 1798. The L. of the academy at Leyden, founded in 1575, is one of the most famous early L., and there are also great L. of the universities of Utrecht (1582) and Amsterdam (1578).

Russia.—Of the great L. of the world the Imperial Public Library at St. Petersburg is one. It contains nearly 2,000,000 volumes and 34,000 MSS., the chief of which is the *Codex Sinaiticus* of the Bible, brought from Mt. Sinai by Fischendorf in 1859.

The public library movement.—The establishment of L. free and open to all ratepayers by municipalities out of funds provided by the rates, was first authorised by the Public Libraries (England) Act, 1850, largely due to the effort of William Ewart, M.P. for Dumfries. The benefits were extended to Ireland in 1853. At first the rate was limited to ½*d.* in the £, but it was extended to 1*d.* in 1855. The right to establish was and is permissive and not compulsory, and until 1893 the power of adopting the Act was left to a vote of the ratepayers: now, except in rural parishes, the power rests with the local authority. Except in certain places, where exceptional powers have been granted, as in Birmingham, the 1*d.* rate is the limit of the funds to be disposed of, a fact which keeps many municipal L. far below their proper and useful standard. Public L. generally contain a reference L., to which free access is given but no books are lent, a newspaper and magazine room, and a lending L., from which ratepayers may borrow books. Mr. Andrew Carnegie gave a great encouragement to the public L. movement by his presentation of the buildings to many municipalities adopting the Acts. His munificence in the U.S.A. has perhaps been of greater value where the money limitation of the 1*d.* rate is unknown. A fine building alone, with the cost of upkeep and salary of officials, has in only too many cases left practically little or nothing for the purchase of books.

Libration. This term is applied to a small irregularity, compounded of the moon's rotation round her axis and her orbital motion, by means of which her visible hemisphere is not always quite the same. The mean revolution of the moon round her axis is the same period of time as her mean revolution in her orbit. If both motions were equable, the moon would always present the same face to a spectator placed at the centre of the earth, on condition that the plane of her equator passed through the centre of the earth. None of these conditions being exactly fulfilled, and the variations being small and periodic, the consequence is that a small portion of the moon's surface in the eastern and western edges, and also in the northern and southern, is alternately visible and invisible. The maximum L. longitudinally is a little short of 6° 50′ and latitudinally is as much as 7° 53′.

Libretto (diminutive of It. *libro*, a book), in music, the book of words of an opera. In many cases, particularly in operas of the Italian school, where vocalisation was carried to the highest pitch of perfection, the L. is entirely subordinated to and moulded by the exigencies of operatic art, and is often little more than doggerel. In the French school, where the declamatory principle was insisted upon, the national dramatic instinct has resulted in the production of dignified libretti, such as those of Lully's, Rameau's, and Gluck's operas. The L. has various characteristics which distinguish it from the ordinary drama, such as the use of the aria and the duet in place of dialogue.

Libreville, a tn. of French Congo, W. Africa, is situated on the N. shore

of the Gabun estuary. It is the capital of the French settlements in the Gulf of Guinea. Pop. 1500.

Libri-Carrucci, Guglielmo Brutus Icilius Timoleon, Count (1803-69), a mathematician and bibliographer, native of Florence. He had been professor of mathematics at the University of Pisa since the age of twenty, when, being implicated in the Liberal political agitation of 1830, he had to fly to France, where Arago aided him. He was member of the Academy of Sciences, professor at the Sorbonne, chief inspector of Public Instruction, and director of the state libraries, but, accused of taking books and MSS. from various libraries for his own collection, he had to take refuge in England. Libri died at Fiesole. He wrote *Histoire des Sciences Mathématiques en Italie*, and *Histoire de Mathématique et de Physique*.

Libya, and Libyan Desert, the ancient Greek name for the northern part of Africa, including Egypt; Homer mentions the land as very fertile. In Roman history the name only applied to the region now known as the Libyan Desert, a huge plateau rising gradually to 1000 ft. above the Nile in stony terraces. There are several famous oases, the largest being Kharga, easy of access from Abydos and Thebes; others are Dakel, Farafra, Baharieh, and Siwah; they are well supplied with springs, and are exceedingly fertile; their occupation goes back to remote antiquity. Further to the W. the Libyan Desert mingles with the trackless silence of the Sahara.

Licata, or Alicata, a tn. of Sicily at the mouth of the Salso, 24 m. S.E. by E. from Girgenti. It exports large quantities of sulphur, fish, country produce, etc. Pop. 22,031.

Lice, parasitic insects without wings, including all the Aptera, with the exception of the fleas. Among the distinct groups are human L. (*Pediculidæ*), true L. (*Hæmelopinus*), bird L. (*Mallophaga*) and epidermis eaters (*Trichodectes*). The female L. produce eggs, popularly called nits, which are often beautifully sculptured objects and are attached to the hairs or feathers of the host. The young are hatched in five or six days, and in less than three weeks are capable of reproduction. Their presence on mammals in excessive numbers causes the disease called Phthiriasis. They flourish most when the host is in an unhealthy, low, or dirty condition.

Licences and Licensing Law. The English licensing code is a body of laws, the primary object of which is the control of the liquor traffic. Other countries choose different methods of accomplishing this purpose. *e.g.* in Russia the state has a monopoly of the liquor trade, and so takes the profits for public purposes. In England in exchange for the state guarantee of a properly conducted and licensed liquor business, various fees must be paid, so that the net result is not radically dissimilar. Some states, however, adopt the principle of prohibition (*see* LOCAL OPTION). This prohibition takes the form of a general or local veto on the sale of liquor, the latter being by far the more usual method followed. General prohibition is in force in Maine in the U.S.A., but the other New England states have abandoned the experiment. Local prohibition is, however, very prevalent in the U.S.A., Canada, and Australia; but in Europe, where intemperance is undoubtedly less marked than in the New World, it obtains only

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has in a manner removed some of the anomalies it has incorporated most of the heterogeneous provisions of the repeated statutes. This Act, together with the provisions in the Finance Act creating higher excise duties, was the legislative answer to the temperance agitation of the preceding years. Opinion differs as to whether there was a general decline in drunkenness prior to 1910, and whether, if not, people can be made more temperate by Act of Parliament. On the whole it is probable that drunkenness has steadily decreased throughout the whole of last century, and the great increase sold, have no r they do not and cannot show whether the consumption per head is higher than in any previous period. The Act of 1910 is comprehensive, but contains nothing approaching a solution of the question. In rural districts, however, experience shows that the high duties have had a marked prohibitive effect on the amount of liquor sold. The Act does not apply to Scotland or Ireland, but the law applicable to those countries is practically the same in principle.

The gist of English licensing law is the making it difficult to sell liquor, by granting licences (generally speaking) only to persons who have obtained a justices' licence authorising them to hold an excise licence. Justices' licences are available only for one year, and must, therefore, be annually renewed at the licensing sessions. There is no right of appeal from a refusal, except in the case of old

licences, when an appeal lies to quarter sessions. A licence may be forfeited by the holder if convicted of permitting premises to be used as a brothel, harbouring thieves [illegible] seditious meetings to be [illegible] premises, selling or expo[illegible] he is not authorised to sell, permitting gaming, or allowing bad characters to resort to the house, and other serious offences. It is a fundamental condition of the grant of a licence that liquor be sold only upon the premises and during certain hours. In London the week-day hours are generally 5 a.m. to 12.30 p.m., and 12 p.m. on Saturdays; in large towns 6 a.m. to 11 p.m.; all other places 6 a.m. to 10 p.m. On Sundays, London, 1 p.m. to 3 p.m., and 6 p.m. to 11 p.m.; all other places, 12.30 p.m. or 1 p.m. to 2.30 p.m. or 3 p.m.; and 6 p.m. to 10 p.m. Liquor may be sold during prohibited hours to a *bona fide* traveller, *i.e.* a person who lodged during the preceding night at a place 3 miles distant from the licensed premises. (This does not apply to wholesale transactions.) No sale on Sunday is allowed at all in Scotland, Wales, and in the greater part of Ireland. There are a number of things prohibited in licensed premises, and the police may enter at any time to prevent and detect such infractions of the law. *Inter alia*, the licenceholder may not permit children under fourteen to be in a bar (but the normal result seems to be that they are found outside on the doorstep or pavement, where drunkards congregate as freely as inside the tap-room), nor sell liquor to habitual drunkards, or to children under fourteen, for consumption on the premises, or at all except in corked and sealed vessels; nor permit disorder or drunkenness, nor bribe the police, or harbour bad characters. The fines for selling in contravention of the terms of the licence will be found below. Imprison[illegible] rnative, licence, or unhold a licence again. There are also a number of regulations as to the registration of clubs. The secretary of a club (and 'club' in the Act is used in the popular sense), and the proprietor of a proprietary club that has no secretary, must register the following particulars about the club: name, objects, address, name of secretary, number of members, club rules as to election of members, terms of subscription, entrance fee, hours, and manner of altering rules. A club once registered can be struck off by an order of a court of summary jurisdiction. A fine up to £20, and imprisonment with hard labour for a second offence, may be imposed on a secretary for omitting to make a return, and a fine up to £50, and a longer [illegible] nment, for knowingly return. In January 7912 registered clubs an increase of 376 over the previous year.

Practically the whole law as to the acquisition, retention, and forfeiture of the right to sell to the public intoxicating liquors, subject to a payment to the state in the form of excise licence duty, and the performance of the various conditions, *e.g.* as to closing, attached to the grant of the licence, is now contained in the Licensing (Consolidation) Act, 1910. The Finance Act, 1910, substituted for the then existing excise licences a comprehensive list of 'excise liquor licences,' divided into manufactures', wholesale dealers', retailers' (on and off), passenger vessel, railway restaurant, and occasional (*i.e.* to sell elsewhere than on licensed premises) licences, together with a new scale of duties. Generally speaking, a retailer cannot obtain an excise licence until he has been granted a licence by the justices at brewster sessions, *i.e.* the special annual meetings of the local justices held for the purpose of granting or renewing licences, authorising the grant to him of an excise licence; but there are two exceptions to this rule, viz. where the holder of a spirit dealer's licence, or a wine dealer's licence, for premises which are exclusively used for the sale of intoxicating liquors, or of such liquors and mineral waters, or other non-intoxicating drinks, and which have no internal communication with the premises of any person who is carrying on any other trade or business, takes out a retailer's off-licence for the sale of spirits, or a similar licence for the sale of wine. As regards a county which is divided into petty sessional divisions, the licensing authority for each division is the justices acting in and for each petty sessional division. Where a county is not so divided, the whole county (excluding the area of any borough having a separate commission of the peace) is deemed to be a petty sessional division for the purposes of the law, relating to justices' licences and the registration of clubs. For [illegible] unty .y is and :om- mittee or the borough justices. An important alteration in practice was effected by the Act in the matter of grants of fresh licences as distinct from renewals. Where a renewal only is asked for the justices cannot, as a

general rule, entertain any objection to the renewal, *e.g.* on the ground of the character of the proposed licensee, unless written notice of an intention to oppose the renewal has been served, seven days before the sessions, on the holder of
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if premises had had at any time, however remote, a licence attached to them, the grant of a similar licence, in respect of those premises, was interpreted to be a renewal, and not a new licence. But now the grant can only be treated as a renewal where a similar licence is actually in force in respect of the premises at the date of the application, or was in force at the date of the general annual licensing meeting in the previous year. The applicant for a manufacturer's or

Customs and Excise without previous authority from the justices—theatres, passenger vessels, railway restaurant cars, and naval and military canteens; while occasional licences are authorised by consent of a petty sessional court. The universities of Oxford and Cambridge, and the corporation of St. Albans, and the Vintners' Company enjoy the privilege of granting licences to hold excise licences without magisterial authorisation.

Manufacturer's licences relate to either spirits, beer, or sweets, and expire on September 30 each year. Such a licence authorises, besides the manufacture o
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duced by the
factory, or elsewhere, by the manufacturer, or a servant or agent of his, if the liquor is supplied to the purchaser direct from the premises of manufacture. The penalty for manufacturing spirits, beer, or sweets, without a licence is £500. A distiller of spirits must take out a licence annually. The duty where the number of gallons computed at proof of spirits distilled during the preceding year (*i.e.* ending June 30) does not exceed 50,000 gallons, is £10; where the number of gallons exceeds 50,000, then £10 for the first 50,000, and £10 for every further 25,000 gallons, or fraction of 25,000. 'Spirits' means any fermented liquor containing a greater proportion than 40 per cent. of proof spirit. An annual licence of £15 15*s.* must also be taken out by a rectifier or compounder of spirits. The duty on a beer manufacturer's licence is £1. Where the number of barrels brewed during the preceding year does not exceed 100 barrels, and where the number exceeds 100 barrels, £1 for the first 100, and 12*s.* for every additional 50, or part of 50, barrels. 'Beer' includes ale, porter, spruce beer, black beer, and any liquor made or sold as a description of, or as a substitute for, beer, and which, on analysis, yields more than 2 ozs. of proof spirit. It is to be noted that where the brewer of beer does not brew for sale, the duty is 4*s.* only; but if he be an occupier of a house of an annual value of over £10, but not over £15, and brews solely for domestic use, the duty will be 9*s.* The occupier of a house of an annual value not exceeding £8 may brew beer solely for his own domestic use, without a licence at all. The duty on a 'sweets' (liquor made from fruit and sugar that has undergone a process of fermentation; it includes British wines, 'made wines,' and metheglin) manufacturer's licence is five guineas. Licences for wholesale dealers in spirits, beer, wine, or sweets, must be taken out annually, the duties being fifteen guineas, ten guineas, and five guineas respectively, with a reduction where a retail licence is also taken out. The penalty for dealing without a licence is £100. The spirit licence authorises the sale at any one time to one person of spirits in any quantity not less than 2 gallons, or one dozen reputed quart bottles; the beer licence, 4½ gallons, or two dozen quart bottles; the wine and sweets, two gallons, or one dozen quart bottles in each case. Retailers' licences are either on-licences, *i.e.* for sale of liquor for consumption *either on or off the premises*, or off-licences, for consumption *off the premises* only. The term 'publican's licence' is exclusively appropriated to a retailer's on-licence for spirits, and the expression 'fully licensed premises' means premises to which a publican's licence is attached. A person who holds a 'publican's licence' may sell by retail beer, cider, wine, and sweets, as well as spirits, without taking out any further retailer's licence. The duty on a publican's licence is equal to half, and that on a beer or beerhouse licence to one-third, the annual value of the licensed premises, subject to certain minimum duties. Cider and sweets on-licence duties are at one-half the rate of wine on-licences. The penalty for selling by retail without a licence is either £50, or a sum equal to treble the full duty. The various retail on-licences authorise sales in the same quantities as for wholesale licences, with the words 'not exceeding' in place of 'not less than' in each case. The holder of a beer on-licence cannot obtain also a

retailer's off-licence for the sale of sprits, wine, or sweets. Holders of six-day licences, or early closing licences, pay only six-sevenths of the duty for a full licence. The duties for cider and sweets off-licences is £2 in each case. None of the above off-licences can be granted to the holder of a retail *on*-licence, if the off-licence authorises the sale of any liquor to be consumed off the premises which the holder of such on-licence could not sell under his on-licence. £10 is the duty for a passenger vessel licence, which licence is to be taken out annually either by the master or some other person belonging to the vessel nominated by the owner; but if the licence is to be in force for one day only the duty is £2. Any liquor can be sold for consumption on the vessel under such a licence, and tobacco also may be sold. The duty on railway restaurant car licences is £1; upon occasional licences granted under the Revenue Acts, 1862-64, the duty on a licence for the sale of any intoxicating liquor is 10*s.* per day; for the sale of beer or wine only, 5*s.* a day. To secure such a licence it is necessary to obtain the consent of a petty sessional court, and give twenty-four hours notice to the superintendent of police of the district. The magisterial consent will specify the hours during which such licence will be in force, and these hours may not extend beyond sunrise in the morning, and 10 p.m., unless the occasion be a public dinner or ball, when the hours may be unlimited. Occasional licences are useful for cricket matches, flower shows, galas, and similar festivities.

The applicant for a licence must be a person whom the justices in their *discretion* deem fit and proper; and this discretion must be judicially and not capriciously exercised, nor according to mere private opinions. But no action lies against the justices for refusal. A 'minor' is apparently a 'fit and proper person.' The licence-holder need not reside on the premises, and may manage the house by means of servants, for the Finance Act, 1910, has repealed the clause in the Beer-house Act, 1840, under which no one could obtain a licence in respect of a house who was not the real resident-holder and occupier. An extraordinarily complicated mass of legislation, reported cases, and memoranda of commissioners of Inland Revenue exists, relating to the method of finding the annual value of licensed premises for the purposes of assessment for liquor duty. Out of that mass, one thing is clear, that the general principle is, and can only be, that the duty is payable on an amount based upon the price which the premises would fetch if sold in the open market, and that the difficulties surrounding the ascertainment of this price have been largely created by the inflated values of tied houses for purposes of compensation, and the different methods to be applied in such cases, and the case of premises let to a person by a landlord who is not a brewer. The Finance Act, 1910, provides that the annual value shall be determined in the same manner as for inhabited house duty, which latter duty is based upon the rack-rent, if any, or if none, then upon the rent that would be paid by the hypothetical tenant. It is practically equivalent to the rateable value. But the Act goes on to speak of 'annual licence value,' a value estimated by subtracting the annual value of the premises regarded as unlicensed from the value *quâ* licensed premises. It appears that the licence-holder may choose whether he will pay duty on the 'annual value' or on the 'annual licence value.' The annual value considered as a factor in the computation of annual licence value is not arrived at in the same way as that for house duty, but is calculated on the same basis as that on which compensation under the Licensing Act, 1904, is calculated in default of agreement between the parties. The mode of arriving at these compensation values is to be found exhaustively stated in the judgment of Mr. Justice Kennedy in the Ashby's Cobham Brewery Company case, decided in 1906, and the principles there enunciated are still applicable, subject to the provision in the Finance Act, 1910, by which an amount for depreciation of trade fixtures is not to be deducted from the value *quâ* licensed premises. Where an owner not a brewer lets premises, the market value is found by capitalising the annual value based upon a true rack-rent. In the commoner class of cases, where the owner is himself the occupier (generally tied houses), and where there is, therefore, no reliable rental basis, the basis for assessment can only be the open market price; and in considering what this price will be, the fact that brewers are possible purchasers, and that they would pay according to the probable profits from liquor supplied to the premises, must be taken into consideration. The price is really the rent plus the profit derived from the sale of liquor to the house itself; and this profit is to be ascertained by reference to the 'quantity and quality of the trade previously done by the house under normal conditions, and apart from any considerations of a personal or special character, such as

the popularity of the licence-holder, or the proximity of the licensed premises to the brewery.'

A reduction in duty is allowed in the case of (*a*) fully licensed premises (*see above*) and beerhouses of an annual value exceeding £500; (*b*) hotels and restaurants; (*c*) premises used for any purpose to which the holding of a licence is merely ancillary, *e.g.* theatres, law courts, public gardens, picture galleries, and exhibitions; (*d*) refreshment rooms at a railway station. On the whole the licensing legislation of 1910 has resulted in a general decrease in the consumption of intoxicating liquors, though 1,400,000 more gallons of spirits and 1,500,000 of beer were consumed in 1911 than in 1910. But going back to 1901 the net decrease is 11 per cent. in the case of beer, and 37 per cent. in the case of spirits.

Lichens, a very large order of lowly plants resistant to extremes of heat and cold, and probably with a wider distribution than any other form of plant life. They are common objects on walls and rocks and on trees, to which some of them frequently do much injury The majority, however, are not parasites, but, when present in abundance on the bark of trees, prevent it from performing its functions, and shelter numerous forms of injurious insect life. The most injurious L. known is the red rust of the tea plant (*Cephaleuros mycoidea*). For many years L. were regarded as separate entities like ferns, fungi, or algæ, until 1866, when De Bary showed them to have a dual nature, each L. being composed of a fungus and [illegible] or more single celled or thread-l algæ. Originally, no doubt, fungus was parasitic on the al but after many struggles one w the other, the parasite and host h reached the state known as mutualism or symbiosis, where they mutually aid one another and enjoy a more prosperous existence than they did individually. It has been observed that the algal element of some L. lives independently for a considerable time. It is during this period that parasitic L., and particularly red rust of the tea plant, are most mischievous. Some of the commonest L. closely resemble certain groups of fungi in habit and general appearance, but there is this difference between them. Fungi, as a general rule, require organic food and cannot therefore live in the absence of other forms of life. L., on the other hand, are among the first forms of life to penetrate regions which through any cause have been sterile. The functions of the fungal half of the partnership is to propagate itself by spores and to envelop and protect the algal cells and supply them with water. These can only grow by division and in their turn manufacture the food for the whole L. by absorbing carbon-dioxide from the air, which is broken up under the influence of light into starch or lichenin (*q.v.*). Some L. are of economic value. In the Arctic regions they frequently act as an important source of animal food and have more than once saved the lives of explorers whose provisions were exhausted. The most important of these is the Reindeer 'Moss' (*Cetraria rangiferina*). *Rocella tinctoria*, which grows on rocks by the coast, is a source of litmus, while other L. yield such dyes as *orchil*, *cudbear*, and *orseille*. There are some 2000 British species of L. One of the most beautiful is *Claydonia cornucopioides*, which is common on heaths.

Lichfield, a municipal bor. and cathedral tn. of Staffordshire, lies in the valley of the Trent, 15 m. S.E. of Stafford. The cathedral dates from the 12th century, and has a valuable library. Addison, Garrick, and Dr. Johnson were educated at its grammar school. Pop. (1911) 8617.

Lichtenberg, a tn. in Alsace, Germany, 14 m. N.E. of Zaberne. It contains a castle, famous in the Franco-German War.

Lichtenberg, East, a suburb of Berlin. [illegible] ristoph- er and He and gathered materials for his famous- [illegible] tricity. His *Gesammelte Schriften* (14 vols.) appeared in 1844-53, his *Briefe* in 1901, and his *Aphorismen* in 1902. Excellent editions with Life and Introduction were published by Grisebach in 1871, and Wilbrandt in 1893.

Lichtenburg, a tn. in the Transvaal, S. Africa, 120 m. W. of Johannesburg. Pop. 2100.

Lichtenstein, a tn. in the kingdom of Saxony, 45 m. S.E. of Leipzig; has a famous old castle. Manufs. linen and paper, and has cotton mills. Pop. 7880.

Lichterfelde, a tn. in the prov. of W. Flanders, Belgium, 12 m. S. of Bruges. It manufs. textiles. Pop. 6700.

Lichterfelde, *see* GROSS-LICHTERFELDE.

Licinius, Caius Licinius Calons, a Roman statesman, noted for his proposal, when acting as tribune of Rome, of the Licinian laws.

Licinius (Publius Flavius Galerius Valerius) (263-324), Emperor of Rome, was a Dacian peasant and received his preferment at the hands of Galerius, on whose death, in 307, he was made Augustus. L. shared his rule with Constantine, whose sister, Constantia, he married. The two emperors quarrelled and went to war; Constantine was victorious at Hadrianople and Chalcedon in 323, and caused L. to be put to death in the following year; the young Licinius, son of the emperor, was murdered about the same time.

Licking, a riv. in Kentucky, U.S.A., rises in the E. of the state, flows N.W. to the Ohio, which it joins opposite Cincinnati. It is 220 m. long and navigable for 70 m.

Lick Observatory was built, at a cost of £140,000, according to the bequest of James Lick, an American millionaire. It stands on a peak of Mt. Hamilton, at an alt. of 4280 ft., 26 m. E. of San José, California, and contains the vault of its founder. The observatory now belongs to the University of California, and possesses the second most powerful refracting telescope in existence (36"). With this instrument many magnificent celestial photographs have been taken.

Lictors (Lat. *ligo*, to bind, probably with reference to the bound rods or fasces borne by them), civil officers amongst the ancient Romans, who were required to attend before the consuls or magistrates to clear the way. It was also their business to inflict corporal punishment and to perform executions.

Lida, a tn. in the gov. of Vilna, W. Russia, 59 m. E. of Grodno. Pop. 9000 (half Jews).

Liddell, Henry George (1811-98), famous as the collaborator, with Dean Scott, of the Greek Lexicon. From 1846-55 he was headmaster of Westminster School; dean of Christ Church, 1855-91; and vice-chancellor at Oxford, 1870-74. Besides the valuable Lexicon, he wrote a *History of Rome*, 1855.

Liddell, Mark Harvey (*b.* 1866), the editor of *The Elizabethan Shakespeare*, born in Pennsylvania, U.S.A. He was educated at Princeton, Oxford, and Berlin, and was professor of English at the University of Texas (1897), and professor and head of the English school (1898-1900). In 1908 he was made professor of English in the University of Louisville, a position he still holds. Besides his great work, *The Elizabethan Shakespeare*, which is not yet completed, he has published: *Chaucer's The Prologue to the Canterbury Tales; The Knightes Tale; The Nonnes Prestes Tale*, in critical text, with grammatical introduction, notes, and glossary, 1901; and *An Introduction to the Study of English Poetry*, 1902.

Liddesdale, or **Lidsdale,** a romantic and beautiful border district, is the valley traversed by Liddel Water, a union of small streams which flows through Roxburghshire from the S.W. of the Cheviot Hills and joins the Esk, 12 m. N. of Carlisle.

Liddon, Henry Parry, D.D. (1829-90), an English divine, born at N. Stoneham, Hampshire. He was ordained deacon by Bishop Wilberforce in 1852 and priest in 1853. He became vice-principal of the Theological College at Cuddesdon in 1854, which post he resigned five years later. In 1864 L. was appointed prebendary of Salisbury Cathedral, and in 1870 he became canon-residentiary of St. Paul's Cathedral. His sermons, lectures, and writings, all of a High Church tendency, had a remarkable influence on the religious thought of the period. At the time of his death he was engaged on a *Life* of Dr. Pusey, which was finished by other hands and published in 1893-94.

Lidford, *see* LYDFORD.

Lidford Law. An old English proverb ran:

'First hang and draw,
Then hear the cause by Lidford law.

The term thus came into use to mean hang a man first and try him afterwards. The theory is that it arose from the very arbitrary procedure of a law court in the Devonshire town of Lidford.

Lidköping, a tn. in the län of Skaraborg, Sweden, 30 m. S.W. of Mariestadt on Lake Wener. It has trade in agricultural produce. Pop. 5500.

Lido, sandy islands in the N. of Italy, between the rivers Brenta and Piave, separate the lagoons of Venice from the Adriatic Sea. It is a popular Venetian watering-place.

Lie, Jonas Laurits Idemil (1833-1908), a Norwegian novelist, born at Ecker, near Drammen. In 1866 he published a volume of poems, and in 1870 his first novel *Den Fremsynte* (Eng. trans. *The Visionary*, 1894), a melancholy romance, which made him famous. He spent his time thereafter between Italy, Germany, Paris, and the Tyrol, not finally returning to Norway until 1891. During these years he published: *Tremasteren Fremtiden* (Eng. trans. *The Barque 'Future'*), 1879; *Lodsen og hans*

Hustru (*The Pilot and his Wife*), 1874, his first really great novel; *Faustina Strozzi*, a verse drama, 1876; *Rutland*, 1881; *Gaa paa*, 1882; *Livsslaven*, 1883; *Familjen paa Gilje*, 1883; *Malstraem*, 1885; *The Commodore's Daughters* (Eng. trans.), 1892; *Niobe*, 1894; *Dyre Rein*, 1896; *Fasti Forland*, 1899; *The Consul*, 1901, and many others. See *Life* by Arne Garborg, 1893.

Lie, Marcus Sophus (1842-99), a Norwegian mathematician, born at Nordfjordeif, near Bergen. He was educated at the University of Christiania, where a special chair of mathematics was created for him in 1872. In 1886 he was appointed professor of geometry at Leipzig. He published: *Theorie der Transformationsgruppen*, 1888-93; and *Vorlesungen über Differentialgleichungen mit bekannten Infinitesimalen Transformationen*, 1891.

Lieben, a tn. in Bohemia, Austria, N.E. suburb of Prague. It carries on important manufs. of machinery, chemicals, cotton, and gold and silver ware. Pop. 27,034.

Liebermann, Max (*b.*
German painter and etche
of Berlin. He was a pupil of
and in 1869 studied at the
Art at Weimar. His best subjects are of humble folk in the villages and fields of Holland, besides factory life in Germany. Some of his finest paintings are: 'Flax Spinners' (Berlin National Gallery), 'The Woman with Goats,' 'An Asylum for Old Men,' 'Labourers in a Turnip Field.'

Liebig, Justus, Freiherr von (1803-73), a famous German chemist, born at Darmstadt. At an early age he displayed a love of natural science, and in 1819 was sent to the University of Bonn, going from thence to Erlangen, where he took his doctor's degree in 1822, publishing a paper on fulminating mercury the same year. He then went to Paris, where he made the acquaintance of Humboldt and Gay-Lussac. At the recommendation of the former, he was made professor of chemistry at the University of Giessen, where he attracted students from all parts of Germany and other European countries. In 1852 he became professor of chemistry at Munich. At the outset of L.'s career, chemistry was in its infancy, but at the time of his death it had developed beyond all expectations. He established the first laboratory where students could receive thorough practical training, and introduced the well-known method of organic analysis. One of his favourite branches of research was the phenomena of animal and vegetable life, and he was the first to prove that the activity of physical and chemical forces is the same in the organised as in the mineral world. His principal work was *Chemistry in its Application to Agriculture and Physiology*, and he also wrote: *Animal Chemistry, or Chemistry in its Application to Physiology and Pathology*; *Researches on the Chemistry of Food*; a *Dictionary of Chemistry*, and *Familiar Letters on Chemistry*; most of which have been translated into English and French. See Hofmann, *The Life-Work of Liebig in Experimental and Philosophic Chemistry*, 1876.

Liebknecht, Wilhelm (1826-1900), a German social-democrat, born at Giessen. Imprisoned for his share in the Baden revolt of 1848, he escaped, going first to Switzerland then to London, where he worked for German newspapers and associated with Marx and Engels. In 1862, after the amnesty, he returned to Germany, but was banished from Berlin and Prussia for socialistic agitation. In 1864 he entered the N. German
and in 1868 began to
ebel, the *Demokratisches*
an attack on Bismarck
ed to their imprisonment
for two years. On his release L. entered the Reichstag, remaining a member almost uninterruptedly for twenty-five years. He edited the Berlin *Vorwärts*, and in 1895 was imprisoned for four years on a charge of *lèse majesté*. He published several works, and there is a *Life* in German by Eisner, 1900.

all European
on the N.E.
Vorarlberg, on
the S. by the Swiss canton of Grisons, and on the W. by the Rhine, which separates it from the canton of St. Gall. It covers an area of 65 sq. m., and has a very mountainous surface, the Alps here reaching an elevation of 8500 ft. Vaduz is the capital, and
prince
nstein,
ntury.
The state is included in the Austro-Hungarian customs union. Pop. 10,000.

Liège (ancient *Leodium*, Flemish *Luik*, Ger. *Lüttich*): 1. A prov. of E. Belgium, almost bisected by the Meuse Valley, containing offshoots of the Ardennes. Coal, iron, zinc, marble, and lead abound in the S., and phosphate of lime in the Hesbaye plateau. Steam-machinery, files, hardware, and fire-arms are manufactured extensively. Jewellery, fabrics, paper, and glass are also manufactured, and there are tanneries, distilleries, and sugar-refineries. The

inhabitants are mainly Walloons. Area 1117 sq. m. Pop. 899,423. 2. Cap. of the above, on the Meuse, almost opposite the valleys of the Vesdre and Ourthe, 54 m. S.E. of Brussels. It contains many interesting old churches of the 10th, 11th, and 12th centuries, the cathedral (formerly St. Paul's Church, rebuilt in the 13th century), town hall (11th century, last rebuilt in 1714), university (1817), and conservatoire. Two forts of its ancient fortifications remain, and it is a bishop's see. It became a Belgian possession in 1830. Pop. 174,768.

Liegnitz, a tn. of Silesia, Prussia, stands on the Katzbach, 38 m. N.W. of Breslau. It is an important industrial centre. Pop. 56,000.

Lien, the right to retain the goods of another pending the payment of a debt due either in respect of the goods retained, or on a general account between the parties. Ls. are either possessory, maritime, or equitable. Possessory Ls. are divided into: (*a*) *Particular*, *i.e.* give a right to retain the *particular* goods in connection with which the debt arose. Such a L. may be provided for by express agreement, or it may be implied. The law implies a L. where skill has been exercised on the goods, or the creditor has been compelled to receive them. Examples of particular Ls. are those of an innkeeper over his guests' luggage for payment of board and lodging, a shipowner over the cargo for his freight, a common carrier for goods carried, and wharfinger for goods warehoused, and the unpaid vendor's L. under the Sale of Goods Act. (*b*) *General*, *i.e.* give a right to retain not only for the debt arising in connection with the goods retained, but for a *general* balance of account. Such a L. arises either from trade custom (*see* CUSTOM), or express agreement. Bankers, solicitors, dyers, factors, and stockholders have the right to exercise a general L., and recently (April 1913) Mr. Justice

carries with it no right to sell the goods retained unless such right is conferred by statute. Innkeepers and wharfingers may sell, and so may the unpaid vendor.

Maritime Ls. include those of seamen for their wages, a master for his wages, and disbursements in and about the cargo, a salvor, the owners of a ship which has been damaged in colliding with another ship by the default of the latter, a bottomry bondholder (*see* BOTTOMRY). The right is exercisable over the ship and its cargo, and far from depending on the possession of the thing over which it exists, as in the case of a possessory L., it is said to follow the thing wherever it goes. Among conflicting maritime Ls. priority is given in the inverse order to that in which they arose. (*See* the principle under BOTTOMRY.)

Equitable L. exists independently of possession, and is in the nature of a right arising out of a trust created by agreement, express or implied. For example, the L. of a trustee on trust property for his costs and expenses, of a vendor of land for unpaid purchase money. L. may be lost by surrender of possession.

Lieou-Kieou Islands, *see* LOO-CHOO ISLANDS.

Lierre, a tn. of Belgium, 11 m. S.E. of Antwerp, has important manufs. of silk, cotton, lace, etc. Pop. 24,000.

Liestal, or **Liesthal**, a tn., cap. of Basel-land, Switzerland, 8 m. S. of Basel. It is a health resort, frequented for its medicinal springs. Pop. 5932.

Lieutenancy, Commission of, the name given to the body of commissioners who take the place of a lord-lieutenant in the City of London. They are sometimes called deputy lord-lieutenants, but this is an incorrect designation, as, although they perform the duties of a lord-lieutenant, they are commissioners appointed annually (as a rule) by the crown; deputy lord-lieutenants, on the other hand, are appointed by the lord-lieutenant. The difference between the City of London and the rest of England is that in the former the lieutenancy is 'in commission.' It is noteworthy that under the Commonwealth the lieutenancies of all the counties were in commission, as Cromwell refused to recognise lord-lieutenants and appointed commissioners in their stead.

Lieutenant and **Second-lieutenant** (Fr. *lieu-tenant*, from Lat. *locum tenens*, holding the place of another), the officers in the British army next in rank to a captain. The former are 'subaltern-officers,' the latter 'subalterns.' The name lieutenant is given to them because they 'understudy' the troop, battery, or company commander, commanding themselves, a squadron, two wagons, or a half-company. Second-lieutenants were formerly called cornets or ensigns, except those of fusilier regiments, who were called second-lieutenants, but when an alteration was made in 1871, those appointed before Aug. 26, 1871, or from the Sandhurst 'A' list, were made lieutenants as from Nov. 1, 1871, those appointed after Aug. 26, 1871, were sub-lieu-

tenants. The latter rank was altered in 1877 to second-lieutenant, which after being abolished from 1881 to Jan. 1887, is now in force. The duties of lieutenants and second-lieutenants are identical.

Lieutenant-Governor, *see* INDIA.

Lieutenant in the Navy. This term somewhat inadequately describes the position of an officer who ranks, during his early tenure of the position, with a captain in the army, and later, after eight years' service, with a major. His title, however, does not vary, and he is still simply known by the title of lieutenant. In most foreign navies this difficulty has been surmounted, but in the British navy it has not. Six years' service as a naval cadet or a midshipman are necessary before an officer becomes entitled to the rank, and then a fairly stiff examination must be passed, which includes in the subjects it embraces, navigation, pilotage, and gunnery in all its branches. During his first eight years of service he is paid at the rate of 10s. a day, whilst later he receives 12s., and after twelve years' service 14s. a day.

Lieven, Dorothea, Princess of (1784-1857), daughter of Christoph von Benkendorf, an Esthonian of middle-class, born at Riga. She received a brilliant education, and in 1800 married Prince Christoph Lieven, Russian ambassador to Prussia. She accompanied her husband to London in 1812 on his appointment to the court of St. James, and became well known in fashionable society. Left a widow in 1837, the princess established herself in Paris, where her 'salon' continued to be the centre of European intrigues. She was often called the 'Egeria of Guizot,' to whom she was a devoted friend.

Lievin, a tn. in the dept. of Pas-de-Calais, France, 14 m. S.E. of Bethune. It is the centre of a mining district. Pop. 22,000.

Life, and Life Assurance, *see* BIOLOGY, and INSURANCE.

Lifeboats, boats specially designed for saving life in cases of shipwreck, etc. The first insubmergible boat was built in 1785 by L. Lukin, a London coachbuilder, encouraged by the Prince of Wales, but it was not until the wreck of the *Adventure* off South Shields in 1789 stirred up public feeling that any great interest was manifested in the question. A prize was then offered for the best L., and Henry Greathead was commissioned to build a boat embodying the best points of his own prize-winning plans, and those of William Wouldhave. The principles of a L. have altered but little since then, although many minor improvements have been made. A quarter of a spheroid will right itself in the water, and consequently L. are in this form. The qualities which are necessary for a L. are great buoyancy allied with stability, self-righting and self-emptying powers, and facility in launching and beaching. Air-cases round the sides, and two large air-chambers, fore and aft, give the buoyancy, and a heavy iron keel gives the stability. The floor of the boat is 2 or 3 in. above the water-line, and has several large holes, at the upper end of which are valves that will let the water out, but not in. The large elevated air-chambers in the bow and stern, the ballast and the heavy keel secure the self-righting properties. The present L. of the self-righting type has been greatly improved, and possesses in addition more stability than the old type. It was formerly considered a sufficient test if the boat would right herself in smooth water without her crew and gear; the present pattern will right herself with all her crew and gear on board, and with her anchor down. Most of the larger self-righting boats are filled with a centre-board and a drop keel, thus adding to their weather qualities. Only the best materials are used in the construction of a L., and each boat has to be passed as efficient by an inspector before being used. The carriage of a L. is a necessary adjunct where it is necessary to launch boats at a distance from the boat-house. Tilling's sand-plates are a great aid on soft and sandy beaches. They consist of an endless plateway or jointed wheel tyre fitted to the main wheels of the carriage. Steam L. were first tried in 1890, and have been successfully used where the harbour never dries out. The history of the growth of the L. service of Great Britain is briefly as follows: Before the end of 1803 Henry Greathead had built thirty-one L., eighteen for use in England, five in Scotland, and eight in foreign countries, but it was not till 1824 that the Royal Institution for the Preservation of Life from Shipwreck, now the Royal National Lifeboat Institution, was founded, by the efforts of Sir W. Hillary, Mr. T. Wilson, and Mr. G. Hibbert. The institution has always been dependent on voluntary subscriptions, and was reorganised in 1850, and again in 1883. At the close of 1908 the institution had 280 L., and the total number of lives for saving which rewards had been granted was 47,983; there were only seventeen L. in the United Kingdom which did not belong to it. A L. station costs about £1000 to equip, and £70 a year to maintain. The United States Life-saving Service

was introduced in 1871, and both in equipment and efficiency has reached a very high standard; it is subsidised to a great extent by Congress. The life-saving societies of both France and Germany date from 1865, and are supported by voluntary contributions.

Life Guards, the premier corps of the British army, taking precedence over all other regiments. Their duty is to attend the sovereign, as their title shows, 'life' being a corruption of the Ger. *Lieb*, body, the L. G. thus being the bodyguards of the king. The origin of the L. G. dates back to 1660, when they were formed as a bodyguard to Charles II., being principally composed of the cavaliers who followed his fortunes in exile, and retaining for many years a certain superiority of personnel. Each regiment of the L. G. carries four standards; their motto is 'Dieu et mon Droit.' They have fought at Dettingen, Peninsular War, Waterloo, Tel-el-Kebir, and in S. Africa.

Liferent, in Scots law, a right or personal servitude analogous to the
use and enjoy
ithout thereby
its substance.
heritable sub-
jects, because a L. can hardly subsist in things w
use. But there
that it may apr
ture or other things which wear out in process of time. A L. in a stocked farm would be construed to mean that the liferenter must leave the stock at the close of his period of enjoyment substantially of the same descriptive value and extent as at entry, and a L. of money would give the interest to the liferenter. Ls. are divided into legal and conventional. Legal Ls. comprise (*a*) *terce* (*tertia*) or right of a widow, or wife who has divorced her husband, to one-third of the husband's heritable subjects, and (*b*) courtesy or right given to the surviving husband of all his wife's heritage, provided issue of the marriage was born alive (*i.e.* has been heard to cry). Conventional Ls. are said to be either simple or by reservation. The former are constituted by grant by the proprietor completed by infeftment; in the latter, the proprietor *reserves* to himself a L. in the same writing by which he conveys the fee of the land to another. *See* Erskine's *Principles of the Law of Scotland*.

Life-saving Apparatus comprises the rocket apparatus, life-belts, rafts, dresses, buoys, bells, etc. The principal means of saving life near the coasts of Great Britain is the first named. In 1807 Captain G. W. Manby introduced the 'mortar' apparatus, which preceded the use of rockets. By this a line was fired over the wrecked vessel by means of a mortar; in 1814 there were forty-five mortar stations in England, and Captain Manby was awarded a grant of £2000. John Dennet, of Newport, introduced the rocket system, and by 1853 there were 120 stations in the United Kingdom fitted with the apparatus. The rocket invented by Captain Boxer was adopted in 1855; this is a combination of two rockets in one case, so that when the first rocket has carried the line as far as possible, the second adds an impetus to it, and a greater range is thereby attained. There are five parts to the rocket apparatus, the rocket, the rocket-line, the whip, the hawser, and the sling life-buoy. The rocket, to which the rocket-line is attached, is fired over the wreck. The crew of the latter haul in the whip, which is an endless line rove through a block with a tail attached to it; the latter is detached and fastened to some portion of the ship high above the water, such as a mast. The hawser, to which is hung the travelling life-buoy, is then hauled off to the wreck by the rescue party. The persons on the wreck then travel one
'me to shore in the life-buoy.
ocket apparatus of Great
is the exclusive property of the Board of Trade, and is managed by the coast-guard service. Next in importance comes the life-belt. Every man engaged in lifeboat work must wear a life-belt, and considerable improvements have been made in the pattern used since 1898, principally by a reduction in the length of the corks under the arms and rounding off the upper portion so as to give the arms of the wearer more freedom. The maximum extra buoyancy has been reduced from 25 to 22 lbs., but the life-belts used in lifeboat work will support a man fully clothed, and a second person. Patents have been taken out for numerous life-belts of very varied description and material, but for general purposes a cork life-belt as above described is the best. The Ryder hammock, a mattress made of cork, is serviceable and will support three men in the water. It was hoped that the Paris Exhibition of 1900 would produce some noteworthy invention, but although many novelties were exhibited, nothing indispensable to life-saving work was evolved. The Andrew Pollok prize of £4000 for the best method or device for saving life from shipwreck, etc., was not awarded to any of the 435 competitors.

Liffey, a riv. of Leinster, Ireland, rises in the Wicklow Mts., and flows into Dublin Bay at Dublin, after a course of 50 m.

Lifts, contrivances for raising and lowering weights from one level in a building to another. They are used for goods of all kinds and for passengers, and are actuated by hand, steam, hydraulic power, or electricity. The generic term 'lifts' includes all L., elevators, and hoists, for passengers, wagons, coal-tubs, etc.; the motive power now most generally used in tube L., etc., is electricity, steam being used in coal and other mines where the shaft is very deep. Hand-power L. are raised and lowered by means of an endless rope running in pulleys with V-grooves, and actuating spur gears. They are fitted with a hand brake, and their carrying capacity varies from 2 to 10 cwt. Belt-driven L., actuated from a steam or gas-engine, are now only used where electricity or water power is not available, but were formerly much used. The cage, which is suspended, is counterbalanced by a cast iron weight, and runs between guides of hardwood or iron. The drive is by a fast pulley with loose pulley adjacent, connection being made by a worm and worm wheel; the rope is coiled round a drum. Electric L. in one system are driven and reversed directly by a reversing motor, which with each journey of the cage is started, stopped, and then reversed; no current is thus consumed when the cage is not working, but the original cost of the system is more than with a constantly-running motor. In another system the motor, which is continuously running, is belted to a countershaft, whence other belts drive the L.; when the L. are idle current is wasted, and the noise of the countershaft would in some cases be objectionable. In high speed electric L. provision has to be made in the design of the controller and the winding of the motor for rapid acceleration of speed and a large range of speeds without any shock. A compact and widely-used design of electric L. drive is that in which the motor drives a worm directly, and a worm wheel to a rope drum or sheave. In the Central London Railway L., two worms, one right and one left handed, are fixed on each spindle; these gear with two worm wheels, the result being that there is no lateral thrust on the bearings. In many L. systems only the authorised attendant is able to control the opening and closing of the L. gates; on the opening of the door the apparatus is locked, so that the L. cannot be moved till the door is closed. The Easton Lift Company add a safety gate lock to some of their L. systems, which renders it impossible for the L. to be started until the gates are closed and locked. In order to prevent a jerk in starting the L., when the full electromotive current is available, resistance is usually inserted in the motor circuit; an automatic switch reduces the resistance as the supply of current decreases. In the drum drive there are separate sets of ropes for the suspension of the cage and the balance weights; each set is anchored to the drum, and whilst one set of ropes is being unwound the other is being wound. A sheave drive having V-grooves is sometimes used instead of a drum drive; the ropes are not attached as to the drum, but the L. is attached to one end of the ropes and the balance weight to the other, and the ropes are driven by the friction of the V-grooves. This system avoids the lateral transverse of ropes on a drum, and the necessity of a slack cable in a drum drive. In the Easton cross-over drive four suspending ropes are used on an eight-grooved sheave, the grooves of which are turned to the radius of the ropes, so avoiding the friction of V-grooves. The ropes are smaller in diameter than when two are used, and the wear is nearly the same as that of ropes on drums. The electric L. of the Central London Railway are guaranteed to raise 17,000 lbs. 65 ft. in 30 secs. from start to stop. In twenty-four shafts 100,000 ft. of ⅞ in., and 17,000 ft. of 1 in. steel rope are used. The steel used in the cables, of which there are four or six to each car and counterweight, has a tenacity of over 85 tons per sq. in. section. (For details as to hydraulic L., *see under* HYDRAULIC MACHINERY.)

Safety in the event of the ropes breaking is of the utmost importance in all passenger L., and many patents have been taken out for devices to secure this. The best method is an air-cushion, a chamber into which the cage drops if the rope breaks, or unwinds too rapidly, and in which the compression of the air brings the L. to rest without any shock. This chamber must be perfectly air-tight, rebounding from the chamber. An air-cushion should extend for one-tenth of the depth of the shaft: in the Empire Building in New York the shaft is 287 ft. deep and the air-cushion 50 ft., extending from the bottom of the shaft to the third storey. Though the air-cushion is

excellent as a last resource, some device to stop the L. as soon as a rope breaks is usually fitted. Safety-catches, which being released b tension of the scription of Waygood's safety-gear will give an idea of the principles of such devices. In this the pressure is applied by cams, which act on the wood runners guiding the L. The ropes are led down from the top corners of the framing to the bottom of the cage, and attached to a sliding plate, which the weight of the cage and the tension of the ropes maintain in position. Four cams are attached to this plate, two at each end, connected by shafts passing beneath the cage. Should a rope break the cams are simultaneously drawn inwards to grip the wood runners. In case all four ropes should break, a fifth rope is fitted; this carries no weight until all the others have failed, when the strain on it causes a pull on the cams, to one of which it is attached. L. are in some cases replaced by moving stairways, or escalators, which travel upwards at the same time as the person walks up them, so that the speed of the latter is equal to the sum of the speeds. They are composed of an endless belt driven by electricity. In the case of L. for coal mines, the motive power is always steam; the rope passes over the headgear on to a drum, and as a rule as the cage on one side is let down that on the other is drawn up. A balance rope which passes round a pulley at the bottom of the shaft and is connected to the cage is usually employed to counterbalance the varying weight of the winding rope as it is drawn up.

Hydraulic L. may be *direct acting*, in which case the cage rests on a ram which works in a hydraulic cylinder sunk as a well down beneath the building. This is costly, however, to fit up and uneconomical in working, although it is a very safe arrangement since the cage cannot fall, and even should a leak occur in the cylinder then the cage would only fall very slowly. To minimise the weight, however, some method of balancing is utilised, so that the work of this main ram shall only be to lift the load and not the cage. Thus we arrive at *hydraulic balances*. As an example the cylinder in which the L. ram works may be connected up to a movable cylinder moving on two fixed hollow rams. As the L. moves down, the displaced water from the L. cylinder passes into the weighted cylinder. So energy is stored up, and is utilised in the return upward-loaded journey. Hydraulic L. are usually of the *suspended* type, however, in which the four ropes holding the cage are wn up by a short ram. These L. be worked at a high speed and not need a deep well. They are fitted with some safety device to prevent too rapid a fall, or accidents in the case of ropes breaking, and their efficiency is enabling them to compete seriously with electric L. In this connection, too, *canal* L. might be mentioned. These are used in some places, *e.g.* on the R. Weaver in Cheshire, instead of locks, and consist of two tanks, one of which is up when the other is down. A boat is floated into each tank from the two levels, the gates closed, and one tank lifted while the other is lowered by rams working in vertical hydraulic cylinders. It is evident, since the two tanks with their boats are almost equally balanced, that the expenditure of power is not great. By keeping the level of water in the ascending tank lower than that in the descending one, it is obvious that even this expenditure is very much lessened.

Ligament, a band of flexible connective tissue connecting the ends of bones and sometimes enveloping the joints. Most Ls. are composed of white fibrous tissues, which is made up of fibres running parallel to each other so as to form a compact structure. Such are the Ls. around the joints. Other Ls. are composed of yellow elastic tissue which is specially adapted to support a continuous but varying stress, as in the Ls. connecting the various cartilages of the larynx. Ls. are also classified as *funicular*, or cylindrical cords; *fasicular*, or flattened bands; and *capsular*, or enveloping Ls. completely investing a joint.

Ligan, or Lagan, *see* FLOTSAM.

Ligao, a pueblo of the Philippine Is., lies in Albay province, Luzon, on the Quinali R. Pop. 18,000.

Ligature (*ligatura*, a band), a cord, band, or thread used for tying about arteries or other vessels to occlude them temporarily or permanently. A L. may be *provisional*, if it is applied during an operation with the intention of removing it after the operation has been performed. If a part is tied so as to prevent discharge from a vessel until a wound has been healed, it is usual to employ pure silk or catgut for the purpose, so that it may become absorbed as the necessity for the L. passes away. In other cases silver wire is used, as it is not likely to lead to injurious irritation. For temporarily arresting the circulation of a limb, as when an artery is severed, a tourniquet, which can be tightened by turning a stick

thrust between the band and the limb, is employed. Other Ls. of rubber are used to compress a part so tightly that the tissues are destroyed; fistula and other growths are removed by this means.

Ligature, in music, a slur, or tie, indicating that a group of notes is to be played coherently, or, in vocal music, sung in one breath. In instrumental music the term marks the phrasing.

Light, that which causes the sensation characteristic of the normal working of the eye. It is impossible to frame a definition of what L. is, as the nature of L. is still the subject of

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tion that L. was a succession of material particles propelled from the source in straight lines. The substance thus propelled was conceived to be imponderable, and its powers of penetration varied according to the nature of the substance in its path. That is, some substances were known to be transparent, others translucent, and others opaque. On striking a surface, certain of the propelled particles were repelled or reflected at the same angle with the normal to the surface as that at which they met the surface. Again, on penetrating transparent substances a certain amount of deviation was caused if the particles struck obliquely. If the par-

of nature or momentum amongst the particles composing white L. The emission or corpuscular theory thus
or most of
light, and
Newton it

survived the attacks made upon it until the beginning of the 19th century. Long before the emission theory was abandoned by physicists generally, many thinkers had conceived of the idea of L. being constituted by the propagation of waves in an elastic medium, in much the same manner as sound waves are propagated in air by the vibration of some body or other. The great objection to the undulatory theory was the generally admitted principle that L. travels in straight lines in a homogeneous medium, while sound waves were known to travel around obstacles and through apertures; that is to say, the existence of sharply-defined shadows was held to demonstrate a fundamental difference in the modes of propagation of L. and sound. The discovery of the phenomenon of *diffraction* caused a general change of *opinion*. This phenomenon involves an amount of deviation from the straight line when L. passes the edge of an opaque body or through a small aperture, and demonstrates that shadows are after all not sharply cut. The difference in behaviour of sound and L. in this respect was now seen to be due to a difference in wave length; that in general sound waves were long in comparison with the obstacles round which they flowed, while L. waves were much shorter. The undulatory theory explained light-phenomena much more satisfactorily for the time being, the only difficulty being the assumption of a luminiferous æther which permeated all things and was perfectly elastic. The various phenomena, etc., are discussed under the headings ABERRATION, ÆTHER, ABSORPTION, DIFFRACTION, DISPERSION, FLUORESCENCE, INTERFERENCE, POLARISATION, REFLECTION, REFRACTION, SPECTRUM, etc.

Light Balls were used in time of war to obtain information as to the enemy's position and occupation. They were of various kinds; thus, one L. B. consisted of a canvas sack filled with an illuminating material and thrown among the enemy's working parties at night, or into their intrenchments, etc. L. B. containing illuminants were also fired from mortars, as were parachute L. B. These contained a lightly folded parachute, to which was attached a cup filled with some illuminating composition. On the bursting of the fuze

Light Cure, *see* FINSEN, N. R.

Lighter and Lightermen. Lighters are strong, heavy, flat-bottomed boats for transporting cargo to and from ships or docks. They are usually open, but some have a deck and large covered hatches. They are either furnished with mast and sail, or else oars or sweeps are used. Lightermen are those employed in or about lighters. Thames lightermen are licensed by the Watermen and Lightermen Company, incorporated in 1827.

Lightfoot, Hannah (*fl.* 1768), a Quaker girl of humble family, who, it has been asserted by some, was the mistress of George III. when Prince of Wales. Others go so far as to state that the prince married her. There is

no direct evidence of either assumption, and the probability is, that the rumours were without foundation. The question is closely argued, from opposite standpoints, by Lewis Melville in *Farmer George* and by M. L. Pendcrel in *The Fair Quaker*.

Lightfoot, John (1602-75), an English divine and rabbinical scholar, born at Stoke-on-Trent. He took orders and became chaplain to Sir R. Cotton in London, who, in 1630, presented to him the rectory of Ashley in Staffs. His first published work, *Erubhim, or* [illegible] *idaical* [illegible] *hours*, ap[illegible]. His next publication was *A Few and New Observations upon the Book of Genesis* (1642). In 1643 he left Ashley for London, and was made rector of St. Bartholomew's Church, near the Exchange. In the same year he sat in the Westminster Assembly. In 1650 he was appointed master of St. Catherine Hall, Cambridge, and four years later vice-chancellor of the university. The best edition of his works is by J. R. Pitman. See *Life* by D. M. Welton.

Lightfoot, Joseph Barber (1828-89), an English prelate and theologian, born in Liverpool. From 1854-59 he edited the *Journal of Classical and Sacred Philology*, and in 1858 took holy orders. For many years he took a prominent place in all educational matters at Cambridge. In 1861 he was made Hulsean professor, and shortly afterwards he became chaplain to the Prince Consort. In 1871 he was made a canon of St. Paul's Cathedral, and in 1879 accepted the bishopric of Durham. He left a number of important theological works, the chief of which was his *Apostolic Fathers* (2nd ed.), 1890. He also wrote *Ignatius and Polycarp*, and commentaries on the Epistles. *See* Westcott's *Bishop Lightfoot*.

Lighthouse, a building erected to carry a light for the purpose of warning and guiding mariners as to their position and course. From very ancient times towers were erected with beacon fires, those built by the Libyans and Cushites in Lower Egypt being perhaps the earliest. The first beacon which was regularly maintained for the benefit of mariners was probably that referred to by the Greek poet Lesches at Sigeum in the Troad (now Cape Inchisari). The Pharos of Alexandria, built in the reign of Ptolemy II. (283-247 B.C.) by Sostratus of Cnidus, was one of the seven wonders of the world, and 'pharos' was for long used as a generic term for a L. The Emperor Claudian built a tower at Œtia in 50 A.D., and other noted Ls. of the Romans were those at Ravenna, Pozzuoli, and Messina. The earliest Ls. in Western Europe were those at Boulogne (La Tour d'Ordre) and at Dover (the Pharos), built by the Romans, who are also presumed to have erected Ls. at Holywell, Flamborough Head, and Boulogne. The earliest example of a tower exposed on all sides to the onslaught of the waves is the L. of Cordonan, built on a rock in the sea at the mouth of the Gironde; the first L. at this point (805) is attributed to Louis le Debonnaire. Many towers with braziers were built at various positions on the coasts of Europe during the 17th and 18th centuries, such as those at Tynemouth (c. 1608), St. Bees (1718), and the Lizard (1751) in the United Kingdom. The Boston Light on Little Brewster Island, Massachusetts, is the oldest in the U.S.A., dating from 1716, and the present structure from 1859; other early Ls. were erected at Beaver Tail, near Newport (1740), and at Brant in Nantucket Harbour (1754). Ls. may be divided into two classes, according to whether they are built on rocks, etc., exposed to the sea, or on the shore; the latter class are naturally more numerous. The former class vary in structure and design according to the special considerations of locality, foundations, etc.; they may be divided into four classes, those built of masonry or concrete, those built of openwork steel or iron on pile foundations, cast-iron plated towers, and structures on cylinder foundations. Masonry towers are built when the foundation is good; the chief points to be observed are as follow: the centre of gravity should be as low and the foundations as deep as possible, and the structure should be of a circular plan. The lower portion should present a vertical face to the waves, and the upper portion should be either straight with a uniform batter, or continually curved in the vertical plane. There should be no projections save a gallery under the lantern, and the height should be sufficient to prevent the spray reaching the latter. The stones, especially those on the outer face, should be dovetailed or joggled; recently concrete and reinforced concrete has been [illegible] econd class [illegible] coral reefs, [illegible] is insecure or sandy, as iron or steel piles can be driven in and the structure built thereon. The third class is erected in situations where the cost of stone or the scarcity of labour renders masonry expensive. Cylinder or caisson foundations are used where it

is desired to erect a substantial structure on sand-banks, shoals, etc., as in the case of the Rothersand Tower (*see below*). Some of the more important of exposed Ls. are as follow: Eddystone L., the present structure built by Sir J. N. Douglass, dates from 1882; previous Ls. were built by Winstanley (1698-1703), Rudyerd (1709-55), and Smeaton (1759-1877). Bell Rock L. (1811), off Forfarshire, has a focal plane 93 ft. above high water. Skerryvore L. (1844), off [illegible] ht of 138 ft., a [illegible] f 42 ft., and at [illegible] éaux de Brehat [illegible] de Ré, has a Rock L. (1858, destroyed during building in 1850) in the Scilly Isles was strengthened in 1874 and again between 1881-87. Minot's Ledge L. (1860) in Boston Harbour, Massachusetts, U.S.A., has a height of 89 ft. Beachy Head L. (1902) has a height of 103 ft.; the old structure on the cliff had a height of 284 ft. Rothersand L. was commenced in May 1881, but was destroyed in Oct. of the same year. The present structure, which was completed in 1885, has a height of 78 ft. above high water, or from the foundation caisson to the top vane, a height of 185 ft. Other noteworthy Ls. are the Horsburgh, Singapore (1851); Smalls L. (present structure 1861); Dædalus Reef in the Red Sea (1863); the Wolf Rock L. (1869); Dhu Heartach (1872); Great Basses, Ceylon (1873); Prongs, Bombay (1874); Spectacle Reef, Lake Huron (1874); Chicken Rock, off the Calf of Man (1874); Armen, near the Ile de Sein, Finistère (1881); Rattray Head (1895); Fastnet (1904); and Jumant d'Ouessant, France (1907). Ls. built on land do not present an [illegible]

from

to focal plane, whilst the d'Eckmuhl (Penmarch 207 ft., built in 1897, most magnificent of such

Optical apparatus of

There are three differen[illegible] light[illegible] [illegible]e dioptric, and [illegible]he first the rays [illegible] only from the faces of incidence, such as silvered mirrors of plane, spherical parabolic or other profile. In the second the rays pass through optical glass and are refracted at the incident and [illegible] [illegible] In the third system

w

tv

in

internally at the second face, and are again refracted on emergence at the third face. The catoptric system dates from about 1763, the dioptric from about 1786, and the catadioptric from 1823; the two latter were invented by M. Fresnel, whose calculations are still used as a basis on the subject. When the rays from the source of light are distributed evenly into a belt of light around the horizon, being condensed only in the vertical plane, the light is a 'fixed' light. When the rays are concentrated into a pencil or cone of light directed towards the horizon and caused to revolve round the source of light, the light is a 'flashing light.' For sector lights and those throwing a beam over a wider azimuth than the flashing lights, the rays are condensed, both in the vertical and horizontal plane, in such a manner as to concentrate the light over an azimuth of the required magnitude. Fixed lights are now very little used, being converted into occulting lights in many cases by the use of apparatus which enables the light to be cut off when required.

uncoloured glass, and that of green only 25 per cent., and a system of reinforcement has to be adopted to make the lights equal in intensity when two colours are used. Lights are divided by the Admiralty into [illegible] culting. The [illegible] two latter is [illegible] All lights in which the period of darkness exceeds that of light are termed flashing, whilst all in which the light period is longer than the dark are termed occulting. These are further divided into group flashing, fixed and flashing, fixed and group flashing, and group occulting, according to the duration combination of light and dark-

An 'alternating' light is one in [illegible] lours are shown an interval: the [illegible] s still retained in [illegible] light which gradu- decreases from [illegible] h really coming [illegible] ass.

—As late as the 19th century wood or coal was used to give light in Ls.; Smeaton introduced candles. Oil lamps with flat wicks were introduced about 1763, and the invention (c. 1780) of the Argand burner caused a great improvement. Sperm oil was used at first, and later colza oil. In 1868 a burner was invented which would [illegible] drocarbon oils (petroleum use of coal gas dates from [illegible] ndescent burners to take coal and mineral oil gas are used. Acetylene is also used, although

various precautions are necessary, and it is especially suitable for unattended lights. The first installation of electric light for L. purposes was in 1858.

Lightships, buoys, etc.—The use of vessels in places where Ls. cannot be erected dates from 1732. The lamps are annular in form and fit round the masts. The use of unattended lights is comparatively recent, dating from 1884. Now electric, oil, and gas beacons, fitted with automatic apparatus for lighting, flashing, etc., have been placed at various points, and permanent wick lights, in which the wick is treated so that a deposit of carbonised tar is formed on its upper surface, are also used. Similar apparatus is also fitted to buoys. Bells and sirens are also employed as warning agents in times of fog. In 1910 the total number of Ls. in the United Kingdom was 1217; of light-vessels, 87; fog signals, 289; and submarine bells, 19.

See Allard, *Mémoire sur l'Intensité et la Portée des Phares*, 1876; T. Stevenson, *Lighthouse Construction and Illumination*, 1881; Royal Commission on Lighthouse Administration, 1908; and articles by Chance, Douglass, Hopkinson, Brebner, and others in *Proc. Inst. Civil Engineers* (vols. xxvi., xxx., xxxviii., lvii., lxxv., lxxxvii., cviii., cxlix., etc.). See the articles on the most important Ls. (Eddystone, etc.); LIGHT, ENGINEERING, etc.

Lightning, a discharge of electricity between two clouds or between a cloud and the earth, the discharge being accompanied by a visible flash. The cause of the discharge is a difference in potential between cloud and cloud or between a cloud and the earth. In dry weather the electrical potential at the surface is positive from without inwards; that is, the atmosphere has a potential positive with respect to the earth, and the difference of potential increases with the distance from the surface. Under circumstances which have not yet been fully investigated, the normal exchange of electricity is not sufficient to maintain the usual balance; particles of water charged with electricity coalesce to form drops, so that the charge is spread over a smaller surface, producing in the aggregate a condition of stress which is eventually determined by a lightning flash. L. is generally recognised as being of two kinds, *forked* and *sheet* L. The forked variety gets its name from the impression of sharp angles sometimes produced, but careful observation and photographic evidence show that the course is usually sinuous, with occasional branching. The thunder is the noise accompanying the discharge, augmented and prolonged by repeated echoings between cloud and earth. Sheet L. is probably the impression of a flash so far away that the sound waves do not reach the observer; it usually consists of an indefinite illumination towards the horizon. A third variety of L. is sometimes spoken of as ball L. No explanation of such a happening has been supplied, unless it be that the appearance of a ball is due to the L. being seen 'end on,' so that it remains visible for a longer time. The so-called thunder-bolts are usually masses of metal or of earth that have been fused by the electric discharge. Thunder travels at the rate of 1100 ft. per second, so that an approximate estimate of the distance between the observer and the seat of discharge can be made. Thus if there are five seconds' interval between flash and thunder, the storm may be said to be a mile off. By counting the intervals between the L. and thunder of successive flashes, it can be determined whether a storm is approaching or receding. Thunderstorms are common in hot summer weather. When the L. has commenced, there is considerable disturbance in the atmosphere. Violent gusts may be experienced if the storm is low, or the aerial disturbances may be confined to the upper atmosphere. The storm may travel across country at about twenty miles per hour if the previous conditions have been quiet, but the rate may be as much as 50 m. per hour if squally conditions exist.

Effects of lightning.—When a discharge takes place, it is most likely to take place through isolated buildings and trees, or those which project above others. If the material is not a good conductor of electricity, injury is likely to be caused by the passage of the electricity. Of all trees, the poplar, oak, ash, and elm appear most liable to be struck, and persons or animals sheltering under them are likely to share in the injury. When a tree is struck by L. the trunk may be shattered, the bark stripped off, or a charred path may be seen from top to bottom. Persons killed by L. die instantaneously. If the shock be not immediately fatal, burns, wounds, and loss of special senses ordinarily occur. As the danger to life is usually from shock, the patient should be kept warm and stimulants administered. If respiratory action is impaired, artificial respiration should be resorted to and persisted in until the natural function is re-established. Buildings are protected to some extent from damage by L. by the attachment of a L. conductor. This consists of a metal rod or wire extend-

ing from top to bottom of the building. The top should project at least six feet above the highest part of the building, and the conductor should be absolutely continuous throughout its length. It is usual to bury the bottom part in a bed of damp soil, or to connect it with a water-main, if such be available.

Light Railways, *see* RAILWAYS, LIGHT.

Lights, in public worship, were used ceremonially by Christians ing at least the first two centuri our era. This is certain from the guage with reference to them used by such early writers as Tertullian, Lactantius, and St. Gregory of Nazianzus. It is equally certain, however, that the exigencies of Christian worship during the days of persecution must have necessitated the use of L. for utilitarian purposes, and the L. thus introduced were later retained for the value of the symbolism which had become attached to them. During the middle ages the ceremonial connected with them became very elaborate, and their presence became associated with the Blessed Sacrament. This is especially seen in the modern Roman Catholic Church. L. are used at the Holy Communion both in East and West.

Lights, Ancient, the popular name for the easement (*q.v.*) of right to light. The right to have free access of the sun's light to one's windows without obstruction by others originates either in a grant (*q.v.*) or by prescriptive title of twenty years. The presumption in favour of the right after twenty years uninterrupted enjoyment is that it has always existed. If, therefore, the person resisting the right proves that forty (say) years ago the access was blocked against the claimant or his predecessor in title. the inchoate right is defeated; and the same result follows if he can show that the claimant's enjoyment of light depended on a written leave or licence given by him (the person resisting), or his predecessor for a limited and now expired period. If A and B are neighbouring tenants of C, A acquires for himself and his successors an absolute title to A. L. as against both B and C and their successors in title. The owner of A. L. is entitled not only to sufficient light for the purpose of his then business, but to all the light which he has enjoyed prior to the interruption he seeks to restrain. A right to A. L. cannot be acquired in favour of open ground, but only in favour of buildings. If a person enlarges old windows, these enlargements can be obstructed with impunity, though the A. L. are still entitled to protection. The right to A. L. is only lost by intentional abandonment. *See also* EASEMENT, LAND LAWS.

Lights, Artificial, are produced by bringing some substance to a state of incandescence. In most methods of artificial illumination, this substance is some form of carbon. When a candle or oil-lamp is burnt, small particles of carbon are produced by the decomposition of the organic [illegible] erial, and [illegible] icated to cause the [illegible] of vegetable and animal origin have been used in lamps from time immemorial, but the introduction of mineral oil in 1853 brought about a greater efficiency, and the fall in price consequent upon the discovery of vast natural stores of petroleum in America brought that illuminant within the reach of all. The efficiency of oil lamps owes a great deal to the burner introduced in 1784 by Argand, and the modifications and improvements which have been made since then. The essential feature of the burner is that the wick takes the form of a hollow cylinder, so that a current of air passes upwards and feeds the inner surface of the flame with oxygen. The introduction of a chimney enclosing the flame brought about a higher degree of steadiness and tended to increase the supply of air. Coal gas was first used as an illuminant by William Murdoch of Redruth in 1779. The early burners were of the 'batswing' type, in which a flattened flame was produced by a slit in the end of the burner. Later, the 'fishtail' flame was produced by causing two jets of gas from two small holes in the burner to impinge upon one another, with the result that a flattening of the flame was produced. Incandescent burners had been tried as early as 1826, but it was not until after Bunsen had introduced his heating burner that they became successful. The Bunsen flame is non-luminous in itself, because the introduction of a certain amount of air into the gas current causes complete oxidation of the carbon with a resulting high temperature. Attempts were made to [illegible] heating [illegible] [illegible] produced. In [illegible] of oxides of [illegible] thorium and cerium in the proportion of 99 to 1. A cylinder of interwoven cotton fibres is soaked in solutions of nitrates of the metals. The nitrates are converted into oxides by applying a bunsen flame, which also destroys the organic matter. In order to

enable the mantle to be handled without breakage, it is dipped in collodion formed by dissolving gun-cotton in alcohol and ether. This leaves a film of gun-cotton upon the mantle, which is thus rendered fairly secure until the film is burnt off by the consumer. Other improvements in coal-gas illumination were provided by the introduction of the inverted burner and of the high-pressure system, by which a small motor is used to increase the pressure above that of the gas in the mains. Electric lighting may be divided into arc systems and incandescent systems. In the former, two carbon rods are placed in contact end to end to enable an electric current to be passed, and are then drawn apart so that a discharge takes place across the gap, which is therefore bridged by a curved stream of vapour at a high temperature. Arc lamps are of many different types, and numerous mechanisms have been invented to maintain the necessary distance between the carbons, which are burnt away at a rate which varies with the current and the type of lamp. The first commercially successful incandescent lamp was that introduced by J. W. Swan and T. A. Edison. It consists of a filament of carbon enclosed in a small glass globe from which the air has been exhausted. In 1897, H. W. Nernst patented a lamp in which the incandescent substance was magnesia or a mixture of rare earths. The use of an exhausted glass vessel is rendered unnecessary, but the incandescent body requires to be heated by a small coil of platinum before its conductivity is sufficient to take the current. The lamp does not, therefore, become illumined as soon as the switch is operated, and is therefore less suitable for domestic purposes than for street lighting. In 1904 the tantalum lamp was introduced. The incandescent body is a zig-zag wire made of tantalum, a metal melting at about 2000° C. A still higher efficiency has been afforded by the use of drawn tungsten wire. Attempts have been made to utilise vapour lamps, particularly that in which a current travels through mercury vapour, but the colour of the light has so far prevented anything like a general use. *See* ACETYLENE.

Lights, Northern (Aurora Borealis, Australis, Polar Light), a natural phenomenon which occurs in many forms, often of great beauty. The principal types are arcs, bands, rays, [illegible] brilliant yellow, green, violet, or flaming red. The aurora usually begins with an arch, its apex to the magnetic meridian. It is often better defined on its lower side, and underneath the sky seems darker than the rest of the heavens. Stars are visible through this 'dark segment' as well as through 'the aurora' itself. The bright streamers of light which often extend 20 or 30 degrees upwards are known to the Shetlanders as the 'merry dancers.' Auroral displays are most frequent and most brilliant in higher latitudes. They are supposed to be due to some form of electrical discharge.

Lightship, a strongly-built wooden vessel, fitted out with lights, moored at sea near reefs, or where it is not feasible to erect a lighthouse. Before 1807 a lantern was hung at the yardarm; Robert Stevenson then introduced a lantern which surrounded the mast, and this plan has since been adopted everywhere. In 1864 Messrs. Stevenson used dioptric instead of catoptric apparatus in designing the Hugli Ls., and Sir James N. Douglass improved the lanterns, using two-wick lamps.

Ligne, Charles Joseph, Prince de (1735-1814), an Austrian soldier and writer, born at Brussels, descended from a princely family of Hainault. He distinguished himself in the Seven Years' War, afterwards rising rapidly to the rank of lieutenant field-marshal. He held high military and diplomatic positions during the reign of Joseph II., and lived in great splendour and luxury. In the War of the Bavarian Succession he again saw active service, and commanded the Austrian artillery at the siege of Belgrade in 1789. At the conquest of Belgium by the French he lost all his estates, but was given the rank of field-marshal and an honorary command at court. From this time onwards till his death he devoted himself to literary work. His collected works appeared in thirty-four volumes at Vienna during the last years of his life, selections being published in French by Mme. de Staël. *See* Lives by Thürheim and Du Bled.

Lignite (Lat. *lignum*, wood), a mineral substance of vegetable origin like coal, but often showing a [illegible] colour, hence 'brown coal.' It occurs in beds like true coal, but is of much later geological age. Deposits of L. [illegible] y parts of the world. [illegible] l, also in the manuf. Jet is a variety of L. [illegible] the heavy dark-coloured, cross-grained heartwood of

a small W. Indi … … … … the republic of Genoa during its … years (1797-1805), when it was … ganised by Bonaparte and made to substitute a democratic for an aristocratic constitution. Till 1802 it was ruled by the Directory, then a Doge became the chief executive. Finally it was annexed to France (1805). See *Camb. Mod. Hist.* ix., 1907.

officinale) which, the tree, becomes therefore of great value for making wooden rollers, rulers, pestles, pulley blocks, etc. The bark has medicinal properties. *See* GUAIACUM.

Ligny, a vil. in the prov. of Namur, Belgium, 13 m. N.E. of Charleroi. It was the scene of the victory of Napoleon over Blucher, June 16, 1815, two days before the battle of Waterloo. L. has an important export trade in granite and marble. Pop. 2000.

Ligonyi, *see* ELGON, MT.

Ligor (Siamese *Sakor*), the chief prov. and tn. of Lower Siam in the N.E. of the isthmus of Kra, Malay Peninsula. The town is on the N. of … is mined.

… …), a celebrater, born … of Paolo Veronese. He … where he was Grand Duke … his masterpi… Crowned Saints,' and the 'Martyrdom of Saint Dorothea.' Several of his oil paintings are in the churches of Florence.

Ligulate, strap-shaped, a botanical term used of the strap-shaped or long, narrow ray and disc florets of the sub-order of composites, Liguliflorae, of which the dandelion is typical; Tubuliflorae, the other sub-order, may have ligulate ray florets.

Liguori, Alfonso Maria di, Saint (1696-1787), a Roman Catholic theologian, founder of the Redemptorist order, born at Marianella, near Naples. In 1726 he became a priest, and in 1732 organised the 'Congregation of the Most Holy Redeemer,' being appointed by Pope Benedict XIV. founder-general for life. He was canonised in 1839, and declared a doctor of the Church in 1871. Moral theology was the most important department of his teaching. His chief work is his *Theologia Moralis*. *See* Lives by Capecelatro and Rispoli, and A. M. Tannoja, 1798-1802.

Liguria, in ancient Italy, a dist. between the Ligurian Sea (Gulf of Genoa) and R. Po, bounded W. and E. by R. Varus and R. Macra. In early times the territory extended into Gaul. The Ligures were conquered by the Romans in the 2nd century B.C. In modern times it is a … of N.W. Italy, … to Maurizio … is good; oranges and wine are produced. Area 2037 sq. m. Pop. 1,211,000.

Ligurian Republic, the name given

Li-hsi, King of Korea, came to the throne in 1864. Previous to the war of 1894-95 he had resisted the encroachment of China, but he was of a somewhat weak and vacillating character, and was largely influenced by the Russian agent residing at Seoul. In 1897 he was proclaimed Emperor of Korea, but in 1910 the country was formally annexed to Japan.

Li Hung Chang (1823-1901), a Chinese statesman, born at Hofei in Ngan-hui. In 1864 he became governor of the Kiang provinces, and on the outbreak of the Taiping rebellion in 1866, again took the field, and ultimately succeeded in suppressing the movement. He subsequently became the viceroy of Tien-tsin, which position he held till his death. At the time of the war with Japan, Li was in a position of great responsibility. He recognised the necessity of … the Chinese forces to … encroachments … of Japan, and under his supervision, both army and navy were greatly strengthened. Notwithstanding, the Chinese forces were routed, and in 1895 the emperor sued for peace, Li being sent to negotiate. In 1896 he represented the emperor at the coronation of the czar. He died shortly after the conclusion of the Boxer movement, the peace being mainly brought about through his exertions.

Likin, or **Lekin**, a Chinese provincial transit duty, originally a war-tax (1853-70), now a permanent and ob… … ne, as goods … at tolls and … may commute these dues by paying 2½ per cent. import duty. The tax yields about £1,950,000.

Lilac, a name for various species of *Syringa* (order Oleaceae). They are very hardy, deciduous shrubs, bearing large terminal panicles of flowers, which vary in colour from white to blue, violet, and purple, and are in most cases delightfully fragrant. *S. vulgaris*, a native of Persia, with its many modern varieties, is one of the commonest shrubs, and grows

under the most unfavourable conditions, but is more floriferous when regularly pruned and its faded flower heads and also its suckers removed. It is easily forced to produce blooms in mid-winter. *S. persica* is a dwarf L., and very free flowering. The buds, leaves, and bark of *S. vulgaris* contain lilacine, an alkaloid with febrifugal qualities, highly valued in S. Europe.

Lilburne, John (1614-57), an English political agitator and pamphleteer, who became the leader of the 'Levellers,' an ultra-democratic party in the Parliamentary army. He was always in opposition to the government, being repeatedly whipped, pilloried, and imprisoned under the Star Chamber, and afterwards under Cromwell for his pamphlets. He subsequently became a Quaker. *See* LEVELLERS.

Lilith (Hebrew, night-monster, night-fairy), a female demon mentioned in the O.T. (Is. xxxiv. 14), translated in English 'screech-owl' or 'night-monster.' The name is probably Babylonian in origin, Lilu and Lilitu being Babylonian sprites that plague men, particularly at night (*layil*, night). She was believed especially hostile to children, and amulets were worn for protection against her.

Lilium, *see* LILY.

Liliuokalani (*b.* 1838), Queen of the Hawaiian Is., sister of King Kalakaua, whom she succeeded in 1891. Her husband, John O. Dominis of Boston, became governor of Oahu, but after his death the queen, influenced by bad advisers, tried to set up a reactionary constitution for the liberal one of 1887. She was, therefore, deposed by the white population, who set up a republic. The islands were formally annexed to U.S.A. in 1898, and the queen retired to Honolulu.

Lille (ancient *Insula*; Flemish *Rijssel* or *Ryssel*), a first-class fortress and city of France, cap. of Nord dept., on the Deule, 26 m. from Arras. One of the chief manufacturing centres of France, it produces quantities of flax and hemp-yarn, linen, and cotton goods, thread, tulle, velvet, ribbons. There are numerous bleaching-grounds and beetroot-plantations near by, and machine-shops, soap, dye, and chemical works, and sugar-refineries. Among its chief public buildings are the Univer[illegible] and the Port[illegible] Beaux Arts [illegible] best picture[illegible] Wrested fro[illegible] defended by Boufflers against Prince Eugène, but finally yielded (1708). It was restored to France (1713), and withstood the Austrians (1792). Vauban built its fortifications (rebuilt 19th century) early in the 18th century. Pop. 216,810. *See* Van Hende, *Hist. de Lille*, 1874.

Lillebonne (ancient *Juliabona*), a tn. of Seine-Inférieure, Normandy, France, 20 m. E. of Havre. Cotton is manufactured. Pop. 6200.

Lillehammer, a tn. on Lake Myösen, Norway, 80 m. N.N.W. of Christiania. Pop. 3000.

Lillencron, Detlev, Freiherr von (1844-1909), a German novelist and poet, born in Kiel. He served in the campaigns of 1866 and 1870-71, and held government posts till 1887, when he followed the pursuit of literature. His best work is his poetry: *Adjutantritte, Gedichte, Nebel und Sonne;* he also wrote novels, including *Breide Hummelsbüttel; Der Mäcen;* and *Kriegsnovellen*, and a very popular humorous epic, *Poggfred*. His *Sämmtliche Werke* appeared in 14 vols. (1904-5). *See* Lives (in German) by Bierbaum, Oppenheimer, and Böckel.

Lilleshall, a tn. of Shropshire, 3 m. S.W. of Newport. Coal and iron are found here. Pop. (1911) 3200.

Lillibullero, the refrain of an Irish revolutionary ballad, words attributed to Lord Wharton and music to Purcell. The word 'lillibullero' was probably used by the Irish Roman Catholics during the Protestant massacres of 1641, and the ballad, a scurrilous attack on the Catholics, helped to bring about the Revolution of 1688.

Lilliput, the name of a fabulous kingdom described in Swift's *Gulliver's Travels*, 1726. Gulliver was wrecked on its shores, and the inhabitants (Lilliputians) were so diminutive, being merely about the size of a man's finger, that Gulliver seemed a giant to them. Hence as an adjective 'Lilliputian' means tiny, dwarfish.

Lillo, George (1693-1739), an English dramatist, was the son of a Dutch jeweller. His first play was produced at Drury Lane in 1730. Of his works, *George Barnwell*, commended by Pope, and *Fatal Curiosity*, produced at the Haymarket by Fielding, are the best known.

Lilly, William (1602-81), an English astrologer, and fortune-teller, satirised in Butler's *Hudibras* as 'Sidrophel.' He issued a series of yearly almanacs *Merlinus Anglicus, Junior*, 1644-81; *Christian Astrology*, 1647, the *Introd. to Astrology* of 1852; *True Hist. of Kings James I. and Charles I.*, 1651. See *Autobiography*, 1715.

Lily (*Lilium*), a large genus which includes some of the most beautiful bulbous plants. There are no true British species of the genus. The various species grow under widely different conditions in most of the

warmer parts of the world, but in position for a sheltered and a light Ls. usually do best in ordinary gardens; the best of these is the Madonna L. (*L. candidum*), with pure white bell-shaped flowers. *L. martagon* (Turk's Cap), bears numerous purple or white flowers on tall stems. Other European Ls. are *L. croceum* and *L. bulbiferum*, both orange; *L. pyrenaicum*, with yellow blooms spotted with brown; *L. pomponium*, producing an umbel of scarlet flowers; and *L. chalcedonicum*, also scarlet. One of the most popular species is *L. auratum*, enormous numbers of bulbs being imported annually from Japan. It does best when grown amongst peat-loving shrubs. A very early species is *L. hansoni*, spotted yellow. *L. speciosum*, white and red, is a valuable plant for providing cut flowers, but is much grown also in pots and borders. *L. tigrinum* with its orange red and black blooms, is one of the hardiest, coming up regularly in borders after once being plante a native of th a large fleshy ses 10 ft. high, and bears numerous trumpet-shaped flowers, white tinged with purple. The bulb dies after flowering.

Lily, Giant, or Spear Lily (*Doryanthes* to a pla times grown in large greenhouses. It bears clusters of scarlet blooms on huge stems, 10 to 12 ft. tall, in late summer. Old plants throw off suckers very freely, and the plant is easily propagated.

Lily, John, *see* LYLY.

Lilye (or Lily), William (c.1468-1522), a grammarian, born at Odiham, Hampshire. He became headmaster of St. Paul's School. He is reputed to be the first to teach Greek in London. He assisted Colet in compiling the Eton Latin Grammar, and published several volumes of Latin verse.

Lily of the Valley (*Convallaria majalis*), a native British plant, and much grown in gardens. Its fragrant drooping bells rising from the characteristic leaves are highly decorative. The plant forces exceptionally well, and for this purpose large numbers of crowns are retarded by refrigeration, and from these with gentle heat the flowers can be produced all the year round. A number of fine varieties have been introduced.

Lima: 1. A maritime dept. of Peru, S. America, bounded on the W. by the Pacific. The surface is very mountainous, with fertile valleys in the W. Pop. 173,000. 2. Cap. of above and of all Peru, on the Rimac, 6 m. from its port, Callao, on the Pacific. Among its chief buildings are the cathedral (begun 1535, rebuilt after the earthquake of 1746), a public library with rare books, the university (1551), and mint (1565). Founded by Pizarro (1535) as Ciudad de los Reyes, it became the seat of the Spanish viceroys of Peru and later capital of the republic. Manufs. include gold lace, glass, pottery, textiles, tobacco, furniture, etc., and silver, copper ore, bark, chinchilla skins, vicuña wool, nitre, soap, and cinchona are exported (mainly from Callao). Pop. about 141,000 (whites, creoles, foreigners about one-third). *See* Middendorf, *Peru* (vol. i.), 1893. 3. Cap. of Allen co., Ohio, U.S.A., on Ottawa R., 72 m. from Toledo. The centre of the Ohio oil-fields, it produces much petroleum, has oil-refineries, steam-engine and motor-car works, and manufs. boilers, torpedoes, etc. Pop. (1910) 30,508.

Limassol, Limasol, or Limisso, a seaport of S. Cyprus, 38 m. S.W. of Larnaka (Larnaca). It has a good roadstead, exports plaster of Paris, and has much trade in wine, carob-trees, and salt. Richard I. here married Berengaria (1191). Pop. 8500.

Limavady (the Dog's Leap), a tn. in co. Londonderry, Ireland, 12 m. W.S.W. of Coleraine. The chief industry is linen-weaving; there are flour-mills. Pop. (1911) 2700.

Lima Wood, *see* BRAZIL WOOD.

Limax, *see* SLUG.

Limb (Lat. *limbus*, border), in astronomy, the border or edge of the apparent disc of a heavenly body, especially the sun and moon.

Limbach, a tn. in the kingdom of Saxony, Germany, 7 m. N.W. of Chemnitz. It manufs. hosiery, machinery, and gloves. Pop. 16,799.

Limbe, a tn. of Haiti, W. Indies, 12 m. S.W. of Cape Haytien. It is the centre of a cotton and coffee growing district. Pop. 15,000.

Limber, that part of a gun-carriage, consisting of two wheels and shafts, to which the horses are harnessed. *See* MACHINE GUNS.

Limborch, Philip van (1633-1712), a Dutch Arminian theologian, was born at Amsterdam. He was pastor at Gouda and Amsterdam, and in 1668 was appointed professor in the Armenian College, Amsterdam. Of his works, the *Institutiones Theologiæ Christianæ* and the *History of the Inquisition* have been translated into English.

Limbourg, or Limburg, an old prov. of the Netherlands, divided between

Holland and Belgium (1839). The Belgian L. is a N.E. province, with Dutch Limburg to N. and E., Antwerp, Brabant, and Liège to W. and S. The Maas (Meuse) R. forms part of the E. boundary. An agricultural region, it produces beetroot-sugar, poultry, and horses, and among its minerals iron, coal, calamine, and turf. Hasselt (capital), St. Trond, and Tongres are the chief towns. Area 931 sq. m. Pop. 255,000.

Limburg, a prov. of S.E. Holland (Netherlands), with Rhenish Prussia to E., N. Brabant (Netherlands), Liège, and Limbourg (Belgium) to N., W., and S. It is drained by the Meuse and the Roer. In the N. comes part of an extensive marsh, the Peel. Its cattle are famous, and coal is mined. Maastricht (capital) and Roermond are the chief manufacturing towns. Pop. 332,010.

Limburg-an-der-Lahn, a walled tn. of Hesse-Nassau, Prussia, 22 m. from Wiesbaden. It has a 17th century cathedral with seven towers, a mediæval bridge across the river, and is a bishop's see. The *Limburger Chronik* is in the possession of this town. There are manufs. of tobacco, leather, cloth; breweries, machine and railroad shops. Pop. 10,965.

Limbus (Lat. border, edge), in scholastic theology, the name applied to the place where departed souls are detained as being unfit to be admitted to the divine vision, and who, nevertheless, have a certain amount of natural goodness and have not offended by any personal act of their own. Dante, in his *Inferno*, describes Limbo as the uppermost of the nine circles subdividing the place of final expiation and doom, the *limbus patrum* and the *limbus infantum* containing the spirits of the virtuous heathen and unbaptised infants.

Lime in the pure state does not exist. Carbonate of L. is obtained by burning limestone in a L. kiln. The carbon dioxide escapes and quicklime, L. shells, burnt L., or caustic L. remains. When wetted, a rise in temperature occurs, and the resulting mass is known as hydrated, slaked, or slack L. In the form of quicklime, L. is most commonly used by farmers and gardeners. The of L. upon soils containing a amount of organic matter is organising one, making plant food available to the crop and burning up decomposing organisms. For this reason, L. must only be applied to soils which contain plenty of organic material, such as animal manures or decayed vegetation. On poor light land, L. accentuates the poverty. In addition to this action, freshly slaked L. is of great value as a fungicide. In soils where turnip culture has been impossible owing to club root, applications of L. for two or three successive seasons have made it possible to grow a good crop. Ground limestone, powdered limestone rock, or chalk, is frequently applied to land, and though the action is slower, the ultimate effect is the same. Dressings of marl are applied to land, chiefly for the L. contained in it. Much agricultural land still depends for its L. on the heavy dressings applied many years ago. Slaked L., as mixed by builders with sand for mortar and plaster, sets by reason of its loss of water and consequent hardening.

Lime, the fruit of sweet L. (*Citrus limetta*) and the W. Indian L. (*C. medica acida*). It is greenish yellow in colour, about 1½ in. in diameter, and almost globular, but with a nipple at the top, and has a smooth, shiny rind. The juice is very acid, and is much used as a summer drink. *C. limetta* is a small prickly tree about 10 ft. high, with white blooms.

Lime, or Linden, a handsome and useful deciduous tree, *Tilia cordata*, the small-leaved L., while hardy and quick growing, is cleaner and handsomer than *T. vulgaris*, the common street tree throughout Europe and in the Berlin promenade, Unter den Linden. *T. platyphyllo* has large hairy leaves, which often fall in August. L. flowers are very attractive to bees. The wood is finely grained, and much used for toys and cabinet-making. Mats are made from the bark.

Lime-light, an illuminating effect produced by heating lime to an extremely high temperature. The principle of L. is based on the fact that calcium oxide, like the alkaline earths generally and the rare earths, withstands the disintegrating effects of heat to a high degree. They are very difficult to fuse, and are bad conductors of heat, so that when intense heat is applied to the surface of one of these substances, the temperature of the area rises immediately to the point at which the radiant energy is emitted in the form of brilliantly white light. This principle has been adopted in the manufacture of gas mantles, which are suspended in an on-luminous flame. Drummond (1797- a light for signalling purposes in which a flame of high temperature impinged upon a small area in a block of lime. As manufactured nowadays, the 'limes' consist of small cylinders with a hole running along the axis, so that a cylinder may be set upon a spindle and caused to revolve at intervals, thus presenting a new area to the flame every few minutes. The flame used requires

to be at a high temperature, and to this end oxygen is combined with hydrogen or coal-gas, the more complete and rapid oxidation of the hydrogen or organic gases producing an enormous liberation of heat. The oxygen and other gas are generally provided separately, the oxygen being contained in metal cylinders under increased pressure, and the coal-gas being supplied from the mains, though if this is subjected to high pressure treatment, the illumination is still more intense. The jets are so
of oxygen
the nozzle
s tube and
Cylinders
of mixed gases are employed with excellent results as regards temperature, but there is an element of danger consequent upon the explosive nature of the mixture. L. has been used in the theatre, in signalling apparatus, and in optical or 'magic' lanterns, but for some years the greater convenience of the electric arc, where current is available, has tended to the replacement of the oxy-hydrogen flame by electricity.

Limerick: 1. A western co. of Ireland, in the prov. of Munster, bounded N. by the estuary of the Shannon. The surface is mostly level, but in the S. and S.E. it is hilly, and the Galtee Mts. reach a height of 3015 ft. The principal river is the Shannon, navigable up to L. and famous for its salmon fisheries, Castleconnell being one of the centres. Above L. are the rapids of Doonas and Castleroy. The fertile Golden Vale lies mainly in this county, and the pasturage is excellent, the rearing of cattle, sheep, goats, pigs, and poultry being extensive; oats and potatoes are grown. Woollen goods and paper are manufactured, and there are flour and meal mills. It has two parliamentary divisions, each returning one member. Area 1062 sq. m. Pop. (1911) 142,846. 2. Municipal and parl. bor. and city of above co. It lies on the banks of the Shannon and includes King's Island. It is divided into three parts, English Town on the island, which is the old city, Irish Town, and Newtown Pery, the modern quarter. On King's Island is a fine Norman building, King John's Castle, used as barracks. The Cathedral of St. Mary on the island dates from 1142. As a port it is the most important on the W. coast, and the trade is considerable. The beautiful L. lace is made at the Convent of the Good Shepherd. Pop. (1911) 38,403.

Limestone, a rock consisting principally of carbonate of lime. Many varieties contain a good percentage of impurities, which affect the colour of the rock. Pure L. is white; the presence of iron oxides gives a yellowish appearance, iron sulphide causes a bluish colour, and white silicates in crystalline Ls. give rise to many different colours. Silica is often present in stratified Ls. in the form of chert or flints. Magnesian L. contains carbonate of magnesium. Ls. vary in physical properties according to their constitution, but fairly pure L. has a hardness of 3, and a specific gravity of from 2·6 to 2·8. It is not soluble in pure water, but is readily acted upon by dilute acids, and dissolves in water containing carbon dioxide in solution. Water in coming through the air as rain, and in percolating through the soil, dissolves quantities of carbon dioxide which is present as the product of combustion or oxidation. In L. regions the water of springs, streams, etc., wears away the rock in a typical manner. Rounded boulders in the beds of streams, deep channels with occasional pot-holes, underground water-courses, caves, and waterfalls are all characteristic of L. districts. Large quantities of dissolved L. are carried out to sea, where it becomes the material from which many marine animals construct their shells or skeletons. When the animals die, their skeletonic remains form an ooze at the bottom of the ocean, which, in course of time and with alteration of level, become layers of chalk and L. Chalk is the best-known organic L., and is made from the shells of certain species of foraminifera. Carboniferous or mountain Ls. contain in addition the remains of coral animals. Oolitic Ls. consist of small rounded grains, and contain many fossils. Besides organic Ls., there are many varieties of crystalline Ls. formed by the effects of neighbouring plutonic intrusions. These lose their organic structure, and are commonly known as marbles. L. may also be deposited from solution without the agency of any animal; in this way stalactites and stalagmites are formed. Ls. are used for the manufacture of lime and cement, as a flux for iron ores, and for building purposes. Crystalline Ls. are used for making statuary and erections of an ornamental nature.

Lime Water, a solution of calcium hydrate. Calcium oxide, or quick-
water with the
le heat. The
o powder, and
slaked lime
(calcium hydrate, $Ca(OH)_2$). If sufficient water be added to bring it to a creamy consistency, the product is called milk of lime: when water is added in sufficient amount to produce

a clear solution, L. W. is formed. L. W. has an alkaline reaction, and has useful medicinal properties.

Limfjord, an arm of the sea bisecting N. Jutland, Denmark, between the Kattegat and the North Sea. The three islands of Engholm, Gjöl, and Oland are situated in its broader part. There are noted oyster beds.

Limit, a quantity in an endless sequence of magnitudes where a point is always found beyond which every member differs from one quantity by a quantity less than any assignable magnitude, this one quantity being known as the L. to the sequence. In mathematics the theory of Ls. plays an important part.

Limitation of Estates, means the marking out by the grantor of land (*q.v.*), to another or others of the quantum of estate (*q.v.*), or interest which each is to take in the land conveyed. It is advisable always to use recognised technical expressions in limiting an estate, because unless appropriate words of limitation are employed the intentions of the grantor may be defeated. (*See under* ESTATE as to the words for a grant in fee simple and fee tail; and also under ENTAIL and DE DONIS.) A grant by deed to X without more confers a life estate only; but by the Wills Act, 1837, a devise of real estate without any words of limitation, will, in the absence of an apparent intention to the contrary, pass the whole fee simple (*see* LAND LAWS, ESTATE), or other the whole disposable estate or interest of the testator. As to perpetuities or remoteness of limitation, *see under* LAND LAWS. *See also* REMAINDERMEN, and REVERSIONERS.

Limitations, Statutes of. It is the policy of the law to impose a time limit on the right to bring actions, not only that there may be some end to litigation, but because, if not, the resulting harm to vested interests that may have grown up in the meantime on the strength of a certain state of circumstances would probably be altogether disproportionate to the detriment to the individual who has lost his right of action by lapse of time. The various periods of limitation in the different classes of actions are all the creation of Statute law. The common law (*q.v.*) permitting an action to be maintained at any distance of time from the accrual of the cause of action. The earliest of the S. of L. is that of 1622 which barred all personal actions, *i.e.* to recover debts on simple contracts (*see* CONTRACT, DEBT), and torts (civil wrongs) after six years (slander excepted). The Mercantile Law Amendment Act, 1856, extended the Act of 1622 to actions on merchants' accounts. It is to be noted that the S. of L. do not, for the most part, expressly destroy the right, they only bar the remedy for its infringement; and though the effect may, generally speaking, be the same, the right may often be available as a set off, *e.g.* if A sues B on a debt for £50, B can set off a stale debt from A to B; and again a person having an equitable (*see* EQUITY) charge upon personal property to secure a debt can enforce his security after the debt itself is barred. But the Real Property Limitation Act, 1874, expressly extinguishes title to land where the owner being out of possession does not sue to recover his land within twelve years. The statutes run from the earliest time at which an action could be brought; *e.g.* if A sells B goods on credit, A's right to sue for the price arises only on the expiration of the credit and the period commences from such expiration; similarly, if one of the parties to a contract dies before the cause of action arises, the period runs only from the moment there is a personal representative capable of suing. Once time begins to run it does so continuously, notwithstanding the happening of something to prevent a person from bringing an action. But a debt may be revived so as to cause the period to begin to run afresh; for, as said above, the debt itself is not extinguished, and a *new promise* to pay will be inferred from (1) part payment, or (2) a written acknowledgment of indebtedness. But such part payment or acknowledgment must be of such a nature as not to be inconsistent with an *implied promise to pay the whole debt, e.g.* if the debtor writes, 'I admit I owe the money; but the goods you sold me were so bad that I should not think of paying for them,' is not sufficient; and again if A owes B £50, and after three years pays £10 on the supposition that that is all he owes, such part payment will not stop the period from running. An acknowledgment or part payment by one of two joint contractors or debtors will bind the other. If an acknowledgment or part payment is made by letter written 'without prejudice,' the continuity of the period will not be broken. An action for injuries to the person (including false imprisonment, *q.v.*) is barred in four years, and an action for slander in two, unless the defamatory (*see* DEFAMATION) words are only actionable on proof of special damage, when the period is six years. Under the Real Property Limitation Act, 1874, actions to recover money secured by mortgage, judgment, or lien, or other-

wise, charged upon or payable out of land or rent, must be brought within twelve years (subject, of course, to part payment or acknowledgment as above). The same Act imposes a similar period in the right to recover a legacy whether payable out of real or personal estate (unless the legacy is vested in an executor upon an express trust). The period under the Act of 1874 runs from the first accrual of the right of action to the person barred or other person through whom he claims; but if the estate (*q.v.*) at that date were in remainder or reversion (*see* REMAINDERMEN and REVERSIONERS) the owner of such contingent estate has either six years from the date he came into possession, or twelve years from the accrual of his right of action, whichever period is longer. The Crown Suits Act, 1769, bars the right of the crown to recover land rents or profits after sixty years adverse possession by a subject (except as to franchises, *q.v.*), otherwise the S. of L. do not apply to the crown (*q.v.*). Persons under disability of infancy, insanity, etc., have six years' grace in which to sue after the disability has ceased. A disability arising after the period has begun will not stop the period; nor will ignorance of one's right of action,

Limited Liability, *see* COMPANY—*Private Companies*.

Limma (Lat. *lemma* from *leipein*, to leave), an interval in the musical system of the ancient Greeks, which does not appear in modern music by reason of its smallness. The Greeks determined the L. by subtracting two whole tones, each in the proportion of 8 : 9, from the perfect fourth (3:4), thus obtaining the ratio 243 : 256.

Limoges, a city and military station, cap. of Haute-Vienne, France, 88 m. W. of Clermont-Ferraud, and overlooking the r. b. of the Vienne. Has extensive manufs. of porcelain, woollen fabrics, paper, candles, leather, etc. It has remains of a Roman fountain and amphitheatre, and an old cathedral commenced in 1273. Pop. 90,000.

Limon, or Port Limon, a seaport tn. of Costa Rica, Central America, 72 m. E. of San José. Possesses a fine harbour. Exports rubber, dyewoods, coffee, and bananas. Pop. 5300.

Limonia, a genus of rutaceous plants found in Africa and Asia. The species, of which half a dozen are known, are shrubs, some having thorns in their leaf-axils. *L. acidissima* is a white-flowered shrub, and its berries are used in Japan in place of soap

Limonite, Brown Iron Ore, Brown Hematite, or Bog Iron Ore, a ferric hydrate with the formula $2Fe_2O_3.3H_2O$. It does not occur crystalline, but is found in fibrous, earthy or concretionary masses. Its colour ranges from yellow to dark brown, and its streak is distinctly yellowish. It has a specific gravity of 3½ to 4, and a hardness of 5½. It is often formed from other oxides or pyrites by the influence of the weather, and is therefore found on the outcrop of other iron ores. Its occurrence in bog or meadow land has given rise to the name 'bog iron ore.' Yellow ochre is clay mixed with L. Abundant deposits of L. have been found in the oolites and other sedimentary rocks.

Limousin, an ancient prov. of Central France, now forming the dept. of Corrèze and part of Haute-Vienne. In 1152 it came into the possession of the English, Henry II. acquiring it with Eleanor of Aquitaine as part of her dowry; but in 1369 it was restored to France. Cap. Limoges.

Limousin (or Limosin), Léonard (*c.* 1505-*c.* 1577), a French enamel painter and engraver, born at Limoges, one of the celebrated family of seven Limoges enamel painters, famed for this special branch of art for many centuries. He was painter to Francis I. and Henry II., and for both monarchs executed many portraits in enamel. Some of his best work is to be seen at the Louvres, notably, 'Le Chasse,' and many portraits, including those of Marguerite de Valois and the duc de Guise. Fine examples of his work are also to be seen at the Wallace Collection and Victoria and Albert Museum, London. *See* E. Molinier, *L'Emaillerie*, 1891.

Limoux, a tn. in dept. of Aude, France, 13 m. S.S.W. of Carcassonne. Trades in wine, cloth, corn, and manufs. hats, blouses, etc. Pop. 7200.

Limpets, gasteropod molluscs with oval tent-shaped shells firmly attached to rocks or stones. The adhesion is made with a circular mass of muscle which when raised in the centre forms a sucker. The shell is lined with a fringed mantle which bears a circlet of folds that take the place of the gills of other molluscs. Within the L.'s mouth lies a long radula or spiny tongue armed with about 2000 glassy hooks. This is used to collect vegetable food. *Patella vulgata*, the common L., is widely distributed on British and other rocky coasts. Some tropical species attain great size.

Limpopo, Innampura, or Crocodile River, an important riv. of S. Africa, rising in the Magaliesberg to the W. of Pretoria in the Transvaal.

It flows in a semicircular course, forming the boundary between British S. Africa and the S. African Republic. Vessels of 200 tons are able to navigate it for 60 m., but its mouth is obstructed by sand-bars. Its principal tributary is the Olifants. It has a total length of about 1000 m.

Limulus, *see* KING CRAB.

Linacre (or Lynaker), Thomas (c. 1460-1524), an English physician, humanist, and divine, born at Canterbury. He visited Europe and on his return he was made court physician to Henry VII., and subsequently to Henry VIII. and Mary. In 1503 he took orders and became rector of Mersham and prebend of Wells. His chief works are his Latin translations from Galen, amongst them being *De Temperamentis* and *De Methodo Medini*. He was among the first to teach Greek at Oxford, where Erasmus and Sir Thomas More were among his pupils. See *Life* by Johnson, 1835.

Linares: 1. A tn. of Spain, 23 m. N.E. of Jaen. It has rich mines, worked from ancient times, of argentiferous lead and copper, employing nearly 20,000 people, yielding some 670,000 ozs. of silver and 126,000 tons of lead ore annually. It has manufs. of sheet-lead, pipes, rope, and explosives. Pop. 48,000. 2. A tn. of Mexico, prov. Nuevo Leon, 65 m. S.E. of Monterey. Gives its name to a bishop's see. Pop. 20,000. 3. An inland prov. of Chile with an area of 3940 sq. m. It is barren and arid in the centre, but fertile in the N. Several volcanic peaks are in the neighbourhood, and the headwaters of the R. Maule
about 110,000.
166 m. S.S.W. of Santiago. Pop. about 10,000.

Linas, or Lynas Point, a cape off the N. of Anglesey, N. Wales, 2 m. E. of Amlwch. It has a lighthouse 128 ft. high, and is a signalling station for Liverpool vessels.

Lincluden, a ruined abbey, originally founded as a convent of Benedictine monks in the 12th century by Uchtred, Lord of Galloway. It is
sh of Terregles,
tland, 1¼ m.

Lincoln: 1. A parl., municipal, and co. bor. and city of
of co. of Lincolnshire, on
It was a Roman station
mercially important at
Conquest. Lincoln Cathedral was founded about 1075, and is the most striking feature of the town. It is in the Gothic style, and is about 480 ft. long and 80 ft. wide. 'Great Tom of Lincoln,' its famous bell, weighs 5 tons 8 cwts. L.'s principal manufs. are agricultural implements and machinery, and it carries on an active trade in grain and wool. It also has important horse and cattle fairs, and race meetings. Pop. (1911) 57,294. *See* Venables, *A Walk through Lincoln*, 1883. 2. A township in Providence co., Rhode Is., U.S.A. Has cotton manufs. Pop. (1910) 9825. 3. The cap. of the state of Nebraska and Lancaster co., U.S.A., 54 m. S.W. of Omaha. In 1871 the University of Nebraska was opened, now accommodating over 3200 students. Pop. 43,973. 4. A city of Logan co., Illinois, U.S.A., 29 m. N.E. by N. of Springfield. The chief industry is coal mining. L. is the seat of the Cumberland University. Pop. (1910) 10,892.

Lincoln, Abraham (1809-65), sixteenth president of the United States, born on Rock Spring Farm, Hardin (now Larue) co., Kentucky, where he worked with his father as an ordinary farm hand until he was nineteen. While working in various capacities he took up politics. In 1834 he was elected member of the Illinois House of Representatives, in which he remained until 1842, becoming a power in the House and concentrating his energies on internal improvements. During this period he made his first pronouncement against slavery, which was the central question of his brilliant career. During this time also he had studied law and was admitted to the bar in September 1836. In 1837 he went to Springfield, and until 1841 practised at the bar as partner to J. T. Stuart, then for two years he was junior partner to S. T.
and from 1843 until 1865 he
nior partner of W. H. Hendon. His career at the bar was most distinguished, and he became one of the leading barristers in Illinois. In 1842 he refused further nomination for the state legislature with a view to putting up for Congress, but it was not until 1846 that he was elected. It was then that he introduced his first bill on the slave question, dealing with slaves in the district of Columbia. He had become a very eloquent speaker, and when, in 1854, the slave question was again reopened by Douglas's Kansas-Nebraska Bill repealing the Missouri
; recognised that
ter able to oppose
of public debates
ollowed, winning for L. national fame. In February 1860, he made his famous speech at Cooper Union, New York, which led to his nomination for the presidency by the Republican party, and on March 4, 1861, L. was inaugurated as president. The immediate result

of his election was the breaking out of the Civil War. The states, S. Carolina and states, seceded from th styling themselves 'The Confederate States of America,' elected Jefferson Davis as their president and prepared for war. In his inaugural address, L. denied their right to secede, and announced his determination to preserve the Union at all costs. From the first the slavery question was the main difficulty of the war. In January 1863, L. issued a proclamation, freeing all slaves in the Confederate states, and another following it (1864) made all the slaves in the Union free. Throughout the war his tact and diplomacy were unrivalled, and his masterly grip of the whole situation averted foreign complications which might have proved disastrous. In 1864 he was re-elected president, beginning his term of office March 1865, and the war came to an end in April of the same year. On the evening of April 11, L. made his last public speech; three nights later he was assassinated by John Wilkes Booth, an actor, while attending a performance at the Ford Theatre. L.'s extraordinary knowledge of human nature, his keen perception and fair mindedness fitted him for a task which few could have fulfilled so well. He had a 'genius for expression' which made him one of the most famous orators the world has ever known; his speech on the occasion of the dedication of the battlefield of Gettysburg as a soldiers' cemetery (November 1863) having become a classic in American literature. He married, in November 1842, Mary Todd (1818-82), and of his four sons one only survived him.

Lincoln, Benjamin (1733-1810), an American general, born at Hingham, nt in the Re- the siege of t him in com- to force the British fleet out of Boston harbour, which he successfully accomplished, but in 1779 he was unsuccessful in besieging Savannah. In 1786-87 he comman against two yea of the Port of Boston.

Lincoln College, one of the colleges of Oxford University, founded in 1427 by Richard Fleming, Bishop of Lincoln, and reorganised by Thomas Rotherham, Archbishop of York, and lord high chancellor in 1479, who thus earned for himself the title of second founder. John Wesley, Lord Crewe, John Morley, and James Cotter Morrison were distinguished members of the college.

Lincoln de- uit of Edward King, being cited before the Archbishop of Canterbury (Dr. Benson) to answer charges of various ritual offences committed at the administration of Holy Communion in the Church of St. Peter-at-Gowts and in Lincoln Cathedral in Dec. of that year. Proceedings were commenced in June 1888 by a petition presented by the promoters (two of whom were inhabitants of the diocese of Lincoln, and two parishioners of St. Peter-at-Gowts) to the archbishop. The matter was referred to a committee and the case then remitted to Dr. Benson, who heard it in Lambeth Palace on Feb. 12, 1889. The offences alleged against the Bishop of Lincoln were, for the most part, breaches of various rubrics in the Communion service of the Prayer-Book, viz. the mixing of water with the wine, the non-visibility of the performance of the manual acts, the making of the sign of the cross at the benediction, etc. It was argued that a bishop is not a 'minister' and thus not bound by the rubrics. Judgment was given by the archbishop in Nov. 1890, but he confined himself to the legal declarations, and pronounced no monition on the Bishop of Lincoln in respect of the breaches of ecclesiastical law committed by him. The promoters appealed to the Judicial Committee and their appeal was heard in 1891, judgment being given in August 1892, and the appeal failing on all points. The case has a permanent importance, first, because certain disputed questions of ritual were legally decided, and, secondly, because the jurisdiction of the Archbishop of Canterbury to try one of his suffragan bishops for alleged ecclesiastical offences, alone, was declared to be well founded and legal.

Lincoln Mount, a peak 14,297 ft. high in the Park Range of the Rocky Mts., Colorado, U.S.A. There are silver-mining works at the summit, to which a railway has been constructed, and there are two meteorological stations, one conducted by Harvard College.

Lincolnshire, an *eastern co. of* England, bounded E. by the German Ocean and the Wash. It is the second largest county in England, and possesses, including the shore of the Humber, nearly 110 m. of coast, mostly marshy, but with some stretches of sand. The county generally is flat, a considerable part being fens and marshes, but there are two ranges of hills, the Lincoln Edge, or Heights, or the Cliff, on the

W. running from Grantham to Lincoln and on again to the Humber, and the Wolds running from Spilsby to Barton-on-Humber. The principal rivers are the Humber, Trent, Witham, and Welland. The Isle of Axholme, the Vale of Ancholme, and a good deal of the county to the S.E. of Lincoln is occupied by the Fens (*q.v.*). The soil as a whole is rich, and it is one of the first agricultural counties in England. A quantity of grain is grown, the largest crop being barley, and cattle and sheep are reared in large numbers, also a fine breed of horses. Limestone, freestone, and ironstone are quarried, but the manufactures are not very considerable; there are machine and implement factories, and also brickfields. It is divided into seven parliamentary divisions, each returning one member. Area 2607 sq. m. Pop. (1911) 557,543.

Lincolnshire Handicap, The, *see* RACE MEETINGS.

Lincoln's Inn, *see* INNS OF COURT.

Lind, Johanna Maria, better known as **Jenny Lind**, and afterwards as **Madame Jenny Lind - Goldschmidt** (1820-87), a singer, born at Stockholm. At the Royal Theatre in Stockholm she made her début in 1838 as Agathe in *Der Freischütz*. She was at once successful, but after two years' work decided to continue her studies for a while under Manuel Garcia. She sang in the principal cities on the Continent, but it was not until 1847 that 'the Swedish nightingale,' as she was called, appeared before a London audience. She aroused tremendous enthusiasm, and became a popular heroine. In 1852 she married Otto Goldschmidt of Hamburg. She had before this (in 1849) retired from the operatic stage, but she continued to sing at concerts until 1883. In 1859 she had become a naturalised British subject. There is a biography by Canon Scott Holland and W. S. Rockstro (1891).

Lindau, an ancient tn. of Swabia, Bavaria, 25 m. E.S.E. of Constance, on a small island in the lake. It has important fisheries and the inhabitants carry on an active trade. The chief building of interest is the mediæval town-hall, which has recently been restored. Pop. 6620.

Lindau, Paul (*b.* 1839), a German critic, dramatist, and novelist, born at Magdeburg. In 1863 he became editor of the *Düsseldorf Zeitung*. He then went to Berlin, and in 1866 to Elberfeld, where he edited the *Elberfelder Zeitung*. In 1869 he founded *Das Neue Blatt* at Leipzig, and three years later, *Die Gegenwart* at Berlin. He also [illegible] *d* in 1878, wh[illegible] L. is the author of numerous works, including biographies, essays, and criticisms, stories, sketches, and [illegible] Amongst [illegible]: *Litterarische Bilder*, essays on Molière and Alfred de Musset; *Herr und Frau Bewer*, and *Spitzen* (novels); and *Die Erste* and *Der Abend* (dramas). *See* Hadlich, *Paul Lindau als dramatischer Dichter*.

Lindeblad, Oskar (1800-48), a Swedish poet, born near Lund, where he gained a reputation for his poetical works, among the best known of which is *The Missionary*.

Linden, a tn. in the prov. of Hanover, and a suburb of the city. Has iron-foundries, textile mills, and rubber and chemical works, and manufactures textiles, ultramarine, and artificial manures. Pop. 73,352. 2. A vil. of Westphalia, Prussia, 7 m. E.S.E. of Essen. Has machine shops and iron-foundries. Coal is also mined here. Pop. 11,974.

Linden Tree, *see* LIME.

Lindlar, a vil. in the Rhine prov. of Prussia, 20 m. N.E. of Cologne. Has iron works and iron and lead mines. Pop. 6669.

Lindley, John (1799-1865), an English botanist, born at Cathon, near Norwich. In 1819 he published *Observations on the Structure of Fruits* (a translation from the French), followed the next year by an original work, *Monographia Rosarum*. In 1829 he became professor of botany at University College, London, and lecturer to the Apothecaries' Company. Amongst his principal publications are: *Synopsis of the British Flora*. *The Theory and Practice of Horticulture*, and *Flora Medica*. In conjunction with Hutton he also wrote *The Fossil Flora of Great Britain*.

Lindley, Nathaniel, Baron Lindley (*b.* 1828), an English jurist, born at Acton Green, Middlesex. He was called to the bar in 1850, beginning practice in the Court of Chancery. In 1872 he became a Q.C., and in 1875 a justice of common pleas. In 1881 he was raised to the Court of Appeal and made a privy councillor. He succeeded Lord Esher as Master of the Rolls in 1897, and three years later was created Baron Lindley. His publications are: *An Introduction to the Study of Jurisprudence*, and *Treatise on the Law of Partnership, including its Application to Joint Stock and other Companies*, 1893.

Lindley, William (1808-1900), an English civil engineer, born in London. In 1838, after travelling in various parts of Europe, engaged in railway work, he was appointed

chief engineer to the Hamburg-Bergedorf Railway. He began by constructing a complete sewerage system, proved to be beneficial, and between 1844 and 1848 designed the Hamburg water-works. He also designed the rebuilding of Hamburg after the fire of 1842, erected the gas-works, and executed the trigonometrical survey of the city (1848-60).

Lindo, Mark Prager (1819-79), a Dutch prose writer, of English parentage, born in London. Went to Holland at the age of nineteen and set up as a private teacher of English. In 1853 was appointed teacher of English language and literature at the Royal Military Academy in Breda, a post he continued to fill till 1865. Wrote sketches for the *Arnhemsche Courant*, afterwards published in book form as *Kompleete Werken van den onder heer Smits*. In 1856 he founded the *Nederlandsche Spectator*, in which much of his best work appeared. L.'s chief serious original Dutch writing was *De Opkomst en Ontwekkeling van het Engelsche Volk*, a valuable history.

Lindsay, a tn. in Victoria co., Ontario, Canada, 70 m. N.E. of Toronto. Manufactures carriages, leather, agricultural implements, etc., and has a tannery and saw mills. Pop. 7500.

Lindsay, Lady Anne, *see* BARNARD, LADY ANNE.

Lindsay (or Lyndesay), Sir David (1490-1555), a Scottish poet and Lyon King-of-arms, born at Garmylton, near Haddington. He was attached to the Scottish court in 1508, and later became an usher to James V. of Scotland, holding this position till 1522. From his writings it is evident that although L. took part in the court life his sympathies were with the people, and he was not afraid of rebuking the vices of the young king, with whom, notwithstanding, he was a favourite. *The Testament and Complaynt of our Soverane Lordis Papyngo* was written by L. as a satire on the court, prelates, and nobles, and the *King's Flyting* as a rebuke of the king's licentiousness. His earliest poem is *The Dreme* (c. 1528), an allegory in the style of Chaucer, written in the seven line stanza. L.'s fam morality play *Ane Satyre of the T Estatis*, peared i m is *The Monarchie*, giving an account of the rise and fall of Syria, Persia, Greece, and Rome. Others include *The Complaynt of Basche, the King's auld Hounde, to Bawtie, the King's best belovit Dog, and his Companions; Kittie's Confessions;* and *Ane Description of Peter Coffer*. *See* Tytler's *Life of Lyndsay*.

Lindsay, James Bowman (1799-1862), a Scottish scientist, born at Carmylie, Forfarshire. In 1834 he discovered the heating and lighting capabilities of electricity, and was also a pioneer of wireless telegraphy. The latter part of his life was entirely devoted to scientific pursuits, and during this time he lived in extreme penury; but in spite of his poor circumstances, he left a library valued at £1300. *See* Robertson's *James Bowman Lindsay*.

Lindsay, Robert of Pitscottie (*c.*1500-*c.* 1578), a Scottish historian and chronicler, called from his birthplace, Pitscottie, Ceres, Fifeshire. Little of a definite nature is known about his life, but his *History* or *Chronicle* discloses him to be a man of distinct humour and strong character, and in the preface to same he states that he is continuing Hector Bocce's and John Bellenden's Latin *History of Scotland*. L.'s *History* was first published by Robert Freebairn, the printer, in 1720, later editions appearing in 1749, 1778, and 1814. It covers a period of Scottish history, about the earlier part of which very little is known, and parts of it are said to have been largely used by modern Scottish historians and by Sir Walter Scott in his novel, *Marmion*. Though untrustworthy as a history for definite facts, it is practically indispensable to the student of Scottish history by reason of its representation of Scottish character and narratives abounding in picturesque detail.

Lindsaya, a genus of Polypodiaceæ, occurs chiefly in tropical countries. There are fifty species, several of which, *e.g. L. Guianensis*, are cultivated in Britain.

Lindsays, Earls of Crawford and Balcarres, *see* CRAWFORD AND BALCARRES, EARLS OF.

Lindsey, Parts of, a dist. of Lincolnshire, the largest of the three administrative divisions of the county, occupying the northern half, all known as 'parts.' The S.E. district is called 'Parts of Holland,' and the S.W. 'Parts of Kesteven.'

Lindsey, Theophilus (1723-1808), an English unitarian, born at Middlewich, Cheshire. His chief work is: *An Historical View of the State of the [illegible] and Worship from our own Times.*

r, *ligne*), a measure of length, the twelfth part of an inch, now only used technically, *e.g.* 'The numbers indicate the quantity of "lines" in diameter.'

Linea, or La Linea, a tn. in prov. of Cadiz, Spain, 4 m. S.E. of San Roque. Pop. 30,000.

Linen, yarns and fabrics spun and woven from the fibres of flax (*Linum usitatissimum*) are all comprehended

under this name. The flax-plant belongs to the order Linacea, and grows from 2 to 3 ft. high. It is cultivated widely in Europe, Asia, and America. The manufacture of L. was one of the most widely spread and extensive industries of European countries from quite early times. Egypt, too, was long celebrated for its Ls.; many L. mummy cloths of fine texture and great age having been found there. The cultivation of flax was extensive in Italy shortly before the Christian era, and it was probably introduced into Britain for textile purposes by the Romans. In recent times it has ceased to be a domestic industry, and has become an important textile manufacture in certain districts. The inventions of Arkwright, Hargreaves, and Crompton in the latter half of the 18th century, were a blow to the L. trade as it then existed. In 1787 the foundation of machine spinning of flax was laid by John Kendrew, and Thomas Porthouse of Darlington, who obtained a patent for the first mill for spinning yarn by machinery, which was built at Darlington. Their invention ultimately developed into the present-day perfect system of machinery, although the weaving of L. yarn by power loom was of slower growth than that of cotton, the first really successful factory for the former not being erected till 1812. The modern manufacture of L. is divided into two branches, viz. spinning and weaving, apart from bleaching and the numerous finishing processes. After the flax fibre is received in bundles from the mill, where it gets a rough sorting, its manufacture into yarn comprises the operations of (*a*) heckling; (*b*) preparing; and (*c*) spinning. The first-named process consists of [illegible] and separ[illegible] filaments [illegible] originally performed by hand, and is so still in Ireland and in some continental mills. The 'heckler' takes a handful of flax by the middle and draws the root-end several times through the heckle-teeth, an oblong stock of wood with strong steel teeth inserted, then reversing the handful and heckling the opposite end in a similar fashion. The flax is then subjected to the same process on a heckle with finer teeth, the object being to separate the flax into 'line,' the best portion, and 'tow,' the short and ravelled end. Nowadays hecklingmachines are extensively employed in the place of hand-heckles. (*b*) *Preparing.*—[illegible] operations [illegible] into quali[illegible] to certain treatment on different machines, viz. the spreading-frame, drawing-frame, and roving-frame. (*c*) *Spinning.*—This operation consists of dry and wet spinning, the first being used for the heavier yarns, and the second for the finer. The 'rovings' are spun into yarn on Arkwright's throstle-machine, also employed in spinning cotton. In the modern process of bleaching, the cloth is rapidly passed over a red-hot cylinder to render it quite smooth. It is then boiled in lime water and soda-lye, dried over heated tin-rollers, and rendered glo[illegible] ing, and dry town in the in the manu England, Le centres of th value of L. manufactures exported is about £6,000,000. On the Continent L. is manufactured in France, Belgium, and Germany. *See* Warden's *Linen Trade, Ancient and Modern.*

Line of Communications, the routes by which, in war time, supplies and ammunition are conveyed from the *base of operations* to the main body of the army. The direction in which the army is preparing to move forward is termed the *line of operations;* thus, the latter is followed up closely by the L. of C. which grows in length, [illegible] which they were campaigning for their supplies. When one part of the country was no longer able to support it, the army moved on, thus leaving in its train, in the majority of cases, a blighted, devastated country-side. The introduction of Ls. of C. brought about a revolution in the art of [illegible]tegy. Strategetical movements [illegible] operations have always, from the [illegible]ery beginnings of war, depended ultimately upon the question of supplies. 'An army travels on its belly,' as Frederick the Great is reported to have said, and Napoleon's dictum that 'the secret of war lies in the communications' embodies the same truth. Thus, the L. of C. became the all-important factor, for an army can be either forced out of a strong position or checked in its advance when its L. of C. is threatened or cut. Such a procedure would appear at first sight to be quite feasible, and indeed easy, by despatching bodies of cavalry round the front of the opposing army to fall on the comparatively unguarded roads which form the line of supply. But in the case of an invading army in a foreign country, the difficulty of obtaining information, the possibility of error in the route, etc., render it an extremely hazard-

ous proceeding. If, however, an army can land from the sea at a point near to a L. of C., especially if not well defended, it may force the enemy to renounce any projects against distant points, as the occupation of Pleona stopped the advance of the Russians through Bulgaria. At the present time, Ls. of C. may consist either of the roads of a country, the rivers, the railways, or of the open sea. The roads are of course often used in addition to the others, but regarded as the main L. of C. they are slow and hard to defend. Rivers have many points to recommend them, being safer and surer than both roads and railways, but they are not always to be found. Railways can supply the needs of an army very quickly, but have several attendant disadvantages. The bed of the railway is easily wrecked, the army relying on them is too hampered in its sphere of action, and as the carrying power of every railway is known, a surprise attack cannot be successfully carried out when properly opposed, as Moltke showed in 1870. The sea is the L. of C. *par excellence* when it is available, as by its use secrecy and freedom of movement can be obtained, and the enemy kept in a continual state of suspense. As has been seen, on the efficiency of its L. of C. depends the efficiency of an army, but if a general is able to cut loose from his L. of C. and change it at will, he gains thereby an enormous advantage, as both Grant and Sherman showed in the American Civil War.

Lines of Entrenchment are the different routes by which the besiegers invest a besieged town. The general [illegible] ll sieges si[illegible] ject to [illegible] of local peculiarities, etc. It was principally owing to the genius in siegecraft of Vauban that such a degree of method was introduced; his skill was such that it was said when he besieged a place—*place assiegée, place prise*. The line or parallel is dug just beyond the limits of a sortie, and consists of a continuous L. of E. facing the point or points of attack. It is from 12 to 15 ft. wide and 3 ft. deep, with a parapet of excavated earth of from 3 to 4 ft. high. Approach trenches are then pushed forward from the first parallel, in a zigzag direction to prevent enfiladement, and the second [illegible] 300 or 400 yds [illegible] attack. Short [illegible] parallels are [illegible] flank, midway between the second parallels and the covered way, whilst the third parallel is constructed at the foot of the glacis, and from it the final attack is made. Occasionally four parallels are constructed at slightly shorter intervals. The trenches and parapets increase in strength as the distance from the besieged place decreases. Trenches may be constructed either by common trench work, flying trench work, or sap. Ligne's parallels were first used by Vauban at the siege of Naestricht in 1673.

Line Spectrum, *see* SPECTRUM.

Ling, *see* CALLUNA VULGARIS.

Ling (*Molva vulgaris*), a wide-ranging fish of the Gadidæ, cod family. It is from 3 to 4 ft. long, and is orange-grey, or bluish on the back and sides, and silvery on the belly. The cordal fin is rounded at the extremity as in the Turbot. When fresh, it is not much valued for food, but cured and dried it is consumed in great quantities in Southern Europe. The roes sometimes attain a great weight, and the female is one of the most prolific fish known. The liver yields an oil which has been used as a luminant, and is sometimes substituted for cod-liver oil as a medicine.

Lingah, or Bander Lingah, a seaport tn. of Persia, in the prov. of Laristan on the Persian Gulf. There is a good harbour, and the anchorage is excellent owing to the depth of the water a comparatively short distance from land. Pop. 15,000.

Linga Puja, a form of phallic worship practised among the Hindus. The Linga, or emblem of the male generative organ is the symbol of Siva, under which form that god is worshipped. The female counterpart is called the *Yoni*, and the two are grouped together as the *Sakti Puja*. It would appear that the meaning of the phallus emblem is little understood by the ordinary people, and in spite of its use, the worship of Siva is decent and decorous compared with some of the other Indian cults.

Lingard, John (1771-1851), an historian, studied at English Roman Catholic College at Douay, and was from 1795 until 1811 vice-president of Crookhall College, near Durham. In 1806 he published *The Antiquities of the Anglo-Saxon Church*, and five years later began his famous *History of England*, the first two volumes of which appeared in 1819, and the last in 1830.

Lingayen, a large gulf on the W. coast of Luzon, Philippine Is. The [illegible] nán, a dist. of Luzon, [illegible] en, and is situated on [illegible] e gulf, 100 m. N.N.W. [illegible] climate is good, and rice is extensively cultivated. Pop. 22,000.

Lingen, a tn. on the R. Ems, in the

kingdom of Hanover, Germany, 43 m. N.N.W. of Münster. Pop. 8021.

Linggi, The, a riv. in the Malay Peninsula, in the extreme S. of Asia.

Lingua Franca, the language adopted by traders in the Mediterranean, and is really a corrupt form of Italian. This term is now applied to any language which is adopted for commercial purposes, such as pidgin-English in China.

Linguaglossa, a tn. in the prov. of Catania, Sicily, on the N.E. slope of Mt. Etna. Pop. 13,102.

Linguists, Institute of, was founded in 1910 with the object of promoting the knowledge and use of modern languages. It consists of two kinds of members, honorary members, who are nominated by the council, and associate members. These latter are only eligible after having passed the necessary tests, and must have a practical knowledge of the spoken language, being able to correspond and converse freely in it.

Lingula, a genus of Brachiopods, with an oblong duck-bill-shaped shell. Shells of L. occur in the earliest Palæozoic strata which exactly resemble living forms, a remarkable persistence of type.

Lingula Flags, The, are fossiliferous geological strata of Cambrian formation found in Wales.

Linievitch, Nicolai Petrovitch (*b.* 1834), a Russian general, was by birth a Polish Catholic. He joined the army and took part in the insurrection of Poland, the war against the Turks, and the expedition against China. When his country went to war with Japan he was promoted to high commands. He led the left against Kuroki in the battle of Mukden (1905), when the enemy was victorious, and for a brief space succeeded Kuropatkin as commander-in-chief.

Liniments, or **Embrocations,** compounds of oils and alkalies, and being of a slighter consistency than ointments, rub more easily into the skin.

Linköping, the cap. of Ostergötland in Sweden, 142 m. from Stockholm. It has a fine museum and a cathedral only second in importance to Upsala Cathedral. Pop. 18,000.

Linley, Thomas (1732-95), an English musical composer, born at Wells in Somerset. In 1775 he came to London, where he remained as musical director of Drury Lane Theatre for many years. He supplied the music to Sheridan's [illegible] as well as to other [illegible] chiefly memorable [illegible] settings to songs, and his music is sweet and melodious.

Linley, William (*b.* 1767), born at Bath, the son of Thomas L., the English musical composer, and is chiefly known for his settings of glees and songs. In 1816 he produced an edition of all Shakespeare's dramatic songs which had been set to music.

Linlithgow, the cap. of the co. of Linlithgowshire in Scotland, is a royal parliamentary burgh. It lies in a valley overlooking a loch 102 acres in extent, and is 17½ m. W. of Edinburgh. Linlithgow Palace was the birthplace of Mary Queen of Scots, and is a quadrangle encircling an acre of ground overlooking the lake. It is a massive edifice, crowned at each end by a tower Pop. (1911) 4002.

Linlithgow, John Adrian Louis Hope, first Marquis of (1860-1908), the son of the sixth Earl of Hopetoun, received, in 1902, the title of Marquis of Linlithgow as a mark of appreciation for the valuable services rendered by him as first governor of the commonwealth of Australia. He died six years afterwards, when his eldest son succeeded him as second marquis. The earldom of L. was a title held by the Livingstones in the beginning of the 17th century, some of whom also held the title of Earl of Callender. *See* HOPETOUN.

Linlithgowshire, or **West Lothian,** a S.E. co. of Scotland, bounded N. by the Firth of Forth. Near the coast the surface is flat, rising towards the S., which contains a number of hills, the highest of which is Knock (1017 ft.). The chief rivers are the Almond, with its tributary, and the Avon. The only loch is that of Linlithgow. Most of the county is under cultivation, and agriculture thrives; the main crop is oats, but barley and wheat are also grown, also potatoes and turnips. Cattle are reared in small numbers, and dairy farming flourishes in places. Coal is found at Bo'ness and Bathgate, and a large trade is done in shale-oil at Dalmeny, Broxburn, etc. There are also extensive iron works and blast furnaces at Kinneil, Whitburn, etc. Fireclay, ironstone, limestone, and freestone are also worked. It returns one member to parliament. Interesting Roman remains have been found in many places. The area is 120 sq. m. Pop. (1911) 79,456.

Linnæa Borealis, named after Linnæus, with his consent and choice. It is a trailing evergreen with thick, opposite, ovate leaves and peduncles of drooping bell-shaped fragrant flowers, pink without and crimson [illegible] Though a native of Britain [illegible]y fruits. It is suitable for a shady rockery with peaty soil.

Linnæus (or von Linné), **Carl** (1707-78), a Swedish botanist, born at Rashult in Sweden. He was intended for

the Church, but his leanings towards botany led to his appointment to the charge of Professor Rudbeck's botanical gardens and deputy lecturer for Rudbeck in 1730. From the age of twenty-four he began to work at his famous classification of plants according to their reproductive organs, which he began to describe in his *Hortus Uplandicus*. In 1732 he undertook botanical explorations through Lapland and Dalecarlia, and in 1735 he went to Holland, where he met Gronovius and Boerhaave. While in Holland he completed his *Systema Naturæ*, *Fundamenta Botanica*, and *Genera Plantarum*. In 1736 he visited England and [illegible] Sweden in 17[illegible] himself as a [illegible] In 1741 he became professor of botany at Upsala. Besides the work already mentioned, *Bibliotheca Botanica* [illegible] *Botanica* and *Class* [illegible] (1738), *Philosophia B* [illegible] and *Species Plantarur* [illegible] contributions to natural history, more especially botany, are of great value. Although much of his work consisted of the summing up of conclusions already reached by his predecessors, and although his classifications are sometimes at fault, the passion for order which he introduced into natural science, and his terse descrip- [illegible] value to [illegible] of classification was based upon [illegible] tion of pistils and sta [illegible] genera and species and the uniform use of specific names. His style is a model of brevity and precision, with no possibility of ambiguous meaning; he methodically treated of each organ in its proper turn and used a special term for each, which never varied in meaning. *See* Sach's *History of Botany*, 1875 (Eng. trans. 1889); Carus's *Geschichte der Zoologie*, 1872; Linne' [illegible] and *L* [illegible] and in Malmsten (1879).

Linnean Society, The, was founded in 1788 by Sir J. E. Smith in commemoration of the celebrated botanist, Carl Linnæus. Appointed president, Sir J. E. Smith bought all the books, MSS., and botanical specimens belonging to Linnæus, and presented them to the Society in 1828.

Linnell, John (1792-1882), an English painter, who is chiefly known for his painting of landscapes. He had a true feeling for nature, and has given some fine examples of simple scenes and glorious sunsets. He executed portraits and engravings, and sometimes chose religious subjects for his canvas.

Linnet, a small bird, belongs to the *Fringilla cannabina* of Linnæus, *Linota cannabina* of modern ornithologists. It resembles the finch family, and is very abundant in Britain, Europe, Asia, and N.W. Africa. It received the name L. partly from its partiality for the seed of the flax plant (*Linum*), but it feeds readily on other seeds. The colours red, grey, or brown indicate the sex as well as the seasonal changes. The L. barely measures 6 in. in length, begins to breed in April, and generally chooses some low-lying bush for its home. The eggs, ranging from four to six in number, are a delicate pale blue [illegible] with a purplish brown.

, Loch, a large inlet with four [illegible] nlets on the W. coast of [illegible] and situated between the [illegible] of Inverness and Argyll.

Linois, Charles Alexandre Léon Durand, Comte de (1761-1848), a French admiral, born at Brest. He was taken prisoner by the English on more than one occasion, but won distinction for himself in the year 1801 by repulsing Saumarez in Algeciras Bay.

Linoleic Acid ($C_{18}H_{32}O_2$), an organic acid found as a glyceride, linolein, in linseed oil; it is the cause of the [illegible] ertics of that oil and may [illegible] by saponifying the oil [illegible] soda.

Linoleum, a preparation of linseed oil which has become solidified when mixed with chloride of sulphur, and it depends upon the proportions used as to what consistency of substance will be produced. L. can also be produced by means of a heating and drying process without the addition of chloride of sulphur. The preparation thus obtained, if crushed, then pressed between hot rollers, helps, with the addition of shellac or naptha, to manufacture new articles, such as waterproof fabrics, carriage aprons, tank linings, etc. But the word L. now chiefly applies to a substance called floor-cloth (*q.v.*).

Linotype, *see* TYPE-SETTING MACHINES.

Linschoten, Jan Huygen van (1563-1611), a Dutch traveller, born at Haarlem. He accompanied the Archbishop of Goa on his mission to India. He also went on an expedition to China, trying to discover a new route. He wrote articles upon the subject of navigation.

Linseed, the seed of the common flax plant or lint, and is used for making L. oil and oil cakes. The

seeds are a transparent brown and of a narrow oval shape. The L. oil is obtained from the innermost coating of the seed which consists of a thin layer of albumen containing a pair of large oily cotyledons. L. is valuable food for cattle and poultry. It is used for poultices, but should never be applied to open wounds.

Linseed Oil is made by the process of pressing the seeds either with or without heat. The seeds are first bruised or crushed, then ground, and finally subjected to pressure in a hydraulic or screw press. The cold-drawn oil is purer than that obtained by means of steam, and yields 18 to 20 per cent. oil. L. O. obtained by steam heat of about 200 degrees, yields 22 to 27 per cent. oil, but is more rancid in quality. Cold pressing of the seeds yields an amber-coloured oil which is edible. The oil yielded by the steam process is a yellowish-brown, but if stored, all moisture and mucilaginous matter gradually settle out; this kind of oil is used for varnish-making. Edible oil has a somewhat peculiar and unpleasant smell and flavour. Both raw and boiled oil are used by painters, the latter being serviceable especially for oil painting; it forms, moreover, the chief basis of all varnishes. The simplest method of preparing boiled oil is to heat the raw oil in an iron or copper boiler three parts filled. When brought to the boil, it must be allowed to boil for two hours longer, all scum and froth being removed. L. O. forms the basis of all printing and lithographic inks.

Lint, a material consisting of the fibres of the inner bark of the flax plant, and is used for manufacturing the stoutest fabrics as well as the finest cambrics. It is also a special dressing for wounds, consisting of soft fluffy unravelled linen cloth.

Linthwaite, a tn. in the W. Riding of Yorkshire, England, 3½ m. S.W. of Huddersfield. Pop. (1911) 8962.

Linton, a tn. in Greene co., Indiana, U.S.A., 12 m. W. of Bloomfield. Pop. (1910) 5906.

Linton, Elizabeth Lynn (1822-98), a novelist. She worked for several years as a journalist, and in 1868 attracted attention by a paper on *The Girl of the Period* (reprinted 1883), in which she made a vigorous attack on the manners and habits of the modern young woman. Her first great success was with *Joshua Davidson* (1872), and this she followed up with *The Autobiography of Christopher Kirkland* (1885). Among her other books were: *An Octave of Friends*, 1891; *George Eliot*, 1897; and *My Literary Life* (issued posthumously), 1899. There is a biography by G. S. Layard, 1891.

Linton, Sir James Dromgole (*b.* 1840), a water-colour and oil painter, was elected a member of the Institute of Water-Colours in 1867. He was elected president of the same institute renamed Royal Institute of Painters in Water-Colours in 1884, and was knighted in 1885. He chiefly excelled in his representation of single figures, but his greatest achievement in oils was his 'Marriage of the Duke of Albany,' a royal commission procured for him in 1885.

Linton, William James (1812-98), an English wood-engraver, born in London. After some years' experience as journeyman engraver, he entered into partnership with John Orrin Smith in the production of *The Illustrated London News*. He became acquainted with Mazzini, the Italian revolutionary, whose ideals and theories he eagerly embraced. He started a political journal, *The English Republic*, which proved a dead loss financially, and he was compelled to try his fortunes abroad. He set up a printing press in America, and wrote many valuable treatises on wood engraving and literary subjects generally.

Lintot, Barnaby Bernard (1675-1736) a 17th century publisher who figured as one of the victims in Pope's attacks in the *Dunciad* and Prologue to the *Satires*. He also published works of Steele and Gay.

Linum, or **Flax**, a genus of hardy annuals and perennials of the order Linaceæ. The toughness of the fibre contained in their slender stems and the oil derived from the seeds make the genus of great economic importance. The Common Flax (*L. usitatissimum*) is not indigenous to Britain, but three species are true natives. *L. catharticum* is a small plant common on dry pastures bearing cymes of small white flowers. *L. perenne* is occasionally found in chalky places. Its petals are a beautiful but fugacious sky-blue. *L. augustifolium* has lilac flowers. The perennials are good rockery plants. *L. grandiflorum* and its varieties are rose and scarlet. *L. arborcum*, of shrubby habits, is yellow.

Linus, formerly a heroic figure in Greek legends, now typifies a dirge or lamentation. Homer mentions the L. song, and the word is conjectured by most authorities to be derived from the Semitic *ai-lanu*, 'woe to us.' The ordinary legend treats L. as a youth who has either succumbed to the fury of some god or goddess, or has been subjected to a violent death.

Linwood, a tn. in the co. of W. Renfrewshire, Scotland, 2½ m. distant from Paisley. Pop. (1911) 1200.

Linz, or Lintz, the cap. of the crown-land of Upper Austria, on the Danube, and connected with its commercial suburb, Urfahr, by an iron bridge. It possesses two cathedrals, and a bishopric was instituted in 1784. The chief manufs. are carpets and cloths. Pop. 67,859.

Lion (*Felis leo*), one of the largest and most handsome of living carnivora. At one time it undoubtedly lived in Europe, but now it is confined to the less civilised parts of Africa and S.W. Asia. Though a single species, a number of varieties with more or less well-marked distinctions have been identified. The L. of Barbary extends over the whole of Northern Africa, and has a deep yellowish brown fur. Its mane is more magnificent than in the other varieties, covering the neck and shoulders and reaching to the under parts. The L. of Senegal occurs further S.W., and is lighter in colour. A third variety ranges throughout S. Africa. Its chief distinction is a darker mane. The Persian or Arabian L. is smaller than any of the Africans, and is paler. The 'maneless' L. of Western India is not altogether without a mane, and a specimen in the London Zoological Gardens developed a fine one. Like most members of the cat family, the L.'s true size is a good deal less than might be supposed. The L. hunts entirely by night, his favourite prey being such Ungulates as antelopes, zebras, cattle, and pigs. A taste for human flesh is usually a sign of old age, when the teeth are worn and hunger makes the animal less shy. The lioness goes with young fifteen or sixteen weeks, and produces from two to six blind cubs at a litter. Mating appears to be for life, from one to four females forming the harem, and the cubs remain with their parents for about three years. The L.'s roar, which usually denotes satisfaction, is one of the grandest sounds in nature.

Lion of Lucerne, *see* LUCERNE.

Lion of St. Mark, *see* VENICE.

Lions, Gulf of the, a broad bay of the Mediterranean, washing the shores of S. France, and called by this name because of the roughness of the sea. The rivers Rhône, Orb, Aude, and Tet discharge their waters into this bay, and the shore is indented for some distance by many miniature bays. The chief town is Marseilles.

Liotard, Jean Etienne (1702-89), a Swiss painter who was equally renowned for his portraits, enamels, and pastel drawings. After studying under Professor Gardille, he visited Paris, Naples, and Rome, where he received a commission to paint the portraits of the pope and various cardinals. Many of his paintings are to be seen in the different European galleries.

Lipa, a tn. in the island of Luzon, Philippine Is., situated in a very fertile district. Pop. 40,000.

Lipari Islands (ancient *Æoliæ Insulæ*), a group of volcanic islands in the Mediterranean off the N.E. of Sicily. They are seven in number: Lipari, Vulcano, Stromboli, Salina, Panaria, Filicudi, and Alicudi, and are all mountainous, the climate being healthy and the soil very fertile. *Lipari* is the largest, and produces, quantities of grapes, figs, olives, and corn, while pumice-stone, sulphur, nitre, soda, capers, and fish are also exported. Its capital, Lipari (pop. 12,000), on the E. side, has an active trade, and is the seat of a bishop. *Salina* is the most fertile of the group, and produces good Malmsey wine. *Stromboli* and *Vulcano* have still active volcanoes. The islands were a Carthaginian naval station during the Punic wars, until their capture by the Romans in 252 B.C.; they were afterwards used by the Roman emperors as a place of banishment for political prisoners. Area of group, 45 sq. m. Pop. 21,000.

Liparite, an acidic lava varying in texture, colour, and composition, so called from its extensive occurrence in the Lipari Islands.

Lipetsk, a tn. of Russia, situated on the r. b. of the R. Voronezh in the gov. of Tambov. An active trade is carried on in horses and cattle, and there are famous chalybeate springs in the vicinity. Pop. 21,000.

Lipine, a tn. in Prussia, in the prov. of Silesia, and is the centre of a coaling dist. 2 m. N.W. of Königshütte. Pop. 18,171.

Lipogram (Gr. λείπω, I leave out, γράμμα, a letter) is a species of composition in which the author leaves out one or more letters of the alphabet. The Greek poet Lasus wrote lipogrammatic verse, and Tryphiodarus, a writer of the 6th century B.C., compiled an *Odyssey* in twenty-four books, from each of which he excluded one of the letters of the Greek alphabet. Latin verse was also written in this style, and Rückert wrote German poems excluding the letter *r*. The French, too, and the Spaniards, have been addicted to this trick; Lope de Vega wrote five novels from each of which one of the vowels is excluded.

Lippa, a market tn. in the co. of Temes, Hungary, on the Maros. It has an extensive pottery manufacture. Pop. 7500.

Lippe, or Lippe-Detmold, a principality of North-West Germany, which lies [illegible] and [illegible]

surface is hilly, and in the S. are the Lippescher-Wald Mts. The chief rivers are the Weser and its tributaries. The state is noted for its forests, which yield excellent timber, and the rearing of cattle, sheep, swine, and horses (especially the 'Senner' breed). Potatoes, rye, beetroot (for sugar), oats, wheat, and barley are cultivated, and Lemgo is famous for its meershaum pipes, and Salzuflen for its brine springs. The chief towns are Detmold, the seat of government, Lemgo, and Horn. The present constitution of the state dates from 1876, and nearly all power is in the hands of the prince. Area 469 sq. m. Pop. 150,749.

Lippe-Schaumburg, *see* SCHAUMBURG-LIPPE.

Lippi, Fra Filippino (c. 1457-1504), a natural son of Fra Filippo L., born at Prato. He studied under Fra Diamante, his father's pupil, and in 1480 painted the 'Vision of St. Bernard,' an altarpiece in the chapel of the Badia, Florence. Many others followed, and in 1485 he executed the famous 'Madonna and Child between SS. Victor, John the Baptist, Bernard, and Zanobius,' now in the Uffizi Gallery. He afterwards went to Rome and painted frescoes representing scenes from the life of St. Thomas Aquinas for the chapel in Santa Maria sopra Minerva, but returned to Florence in 1493, and painted 'Christ appearing to the Virgin,' now in Munich Gallery; 'The Adoration of the Magi' (Uffizi), and frescoes for the Strozzi chapel.

Lippi, Fra Filippo (c. 1406-69), an Italian painter, born at Florence. About 1431 he began some pictures for a Florentine monastery, and also executed other paintings, but his greatest work was the collection of frescoes in the choir of Prato Cathedral which represent events in the lives of St. John the Baptist and St. Stephen. These exhibit fine painting of costume, and are also remarkable for their colour and grouping; the two best perhaps being the last, the 'Death of St. Stephen,' in which he introduced the portrait of [illegible] and that of Salome dancing. He spent his last years in Spoleto, being on some frescoes, scenes from the life of the Virgin, for the choir of the cathedral. These were finished by Fra Diamante.

Lippincott, Joshua Ballinger (1813-86), a publisher, born in Juliustown, New Jersey. He was a bookseller in Philadelphia, 1831-36, and founded in 1836 the house of J. B. Lippincott & Co., which by 1850 was at the head of the book trade in Philadelphia. After his death (1886) the firm was converted into a company. *Lippincott's Magazine* was founded in 1868.

Lippmann, Gabriel (*b.* 1845), a French scientist, born at Hallerich, Luxembourg. He invented the capillary electrometer, and also made other important discoveries, among which may be mentioned the discovery of colour photography. In 1883 he succeeded Briot in the chair of mathematical physics at the Sorbonne, and in 1886 was made professor of experimental physics, the same year being elected a member of L'Académie des Sciences. He is now president of the Scientific Mathematical Section of the Ecole Pratique des Hautes Etudes, Sorbonne. He has published *Thermodynamics; Acoustics and Optics; Capillarity; Colour Photography; Electrical Units.*

Lippspringe, a tn. in the prov. of Westphalia, Prussia, renowned for its saline springs, the Arminius Quelle and the Liborius Quelle. The place is annually thronged by visitors. Pop. 4071.

Lippstadt, a tn. in the prov. of Westphalia, Prussia, on the R. Lippe. The architecture of its principal church, St. Mary's, belongs to the Transitional period. Pop. 16,395.

Lipsius, Justus, or Joest Lips (1547-1606), a classical scholar, born near Brussels. He was for a time a teacher in the University of Jena, and in 1579 was professor of history at Leyden, finally settling at Louvain as professor of Latin in the Collegium Buslidianum. He was successively a Roman Catholic, a Lutheran, a Calvinist, and again a Roman Catholic. His greatest work was his *Tacitus*, which first appeared in 1575 and was five times revised and corrected.

Lipsius, Richard Adelbert (1830-92), a German theologian, born at Gera. He studied at Leipzig, and was professor at Vienna in 1861, at Kiel in 1865, and at Jena in 1871. He was largely responsible for the foundation of the Evangelical Protestant Missionary Union, and the Evangelical Alliance, and took an active part in their [illegible] writings deal [illegible] and the history [illegible] Among them [illegible] *Religion*, 1885; [illegible] '871; *Lehrbuch der Evangelisch-protestantischen Dogmatik*, 1876; and *Die apokryphen Apostelgeschichten*, 1883-87. He also assisted in the editorship of the *Jahrbücher für Protest. Theologie*, and was editor of the *Theol. Jahresbericht*, 1885-91.

Lipton, Sir Thomas Johnstone, Bart. (*b.* 1850), a merchant, born at Glasgow. He emigrated to America at the age of fifteen, and supported himself

by working in a grocery store, etc. After some years he returned to Scotland and started a provision shop at Glasgow. His business gradually increased, and he was not only able to open shops all over the kingdom, but to purchase tea and coffee plantations in Ceylon. He also provided his own fruit farms, bakeries, and bacon-curing establishments in England, as well as a packing-house for hogs in Chicago. In 1898 his business was converted into a limited company, of which he is chairman. He has several times competed for the America Cup, and owns the yachts *Erin* and *Shamrock*. He was knighted in 1898, and made a baronet in 1902.

Liquation, the process of transforming a solid into a liquid. The term is used particularly of the melting of metallic mixtures in order to separate out their constituents. The process is an important one in the refining of certain metals, as impurities can thus be efficiently and economically removed. In the purification of lead, for example, the metal is melted down slowly in a reverberatory furnace, and the scum formed by the oxidation of impurities is removed as it forms. This is continued until pure litharge is formed on the molten surface, by which time all the tin, arsenic, and antimony have been removed. The operation is also useful in separating the constituents of an alloy, as under certain conditions there is a tendency for the metals to separate as they approach their respective melting-points in cooling.

Liquefaction of Gases, *see* GAS AND GASES.

Liqueurs. This term is applied to beverages which have been sweetened and flavoured in such a way as to be highly palatable. Three ingredients are essential in the preparation of these beverages, viz. (1) a powerful spirit or alcohol, (2) sugar or syrup, (3) some flavouring matter such as aniseed, coriander, lemon, cloves, citron, peppermint, etc. Kümmel is the popular L. of Russia, and is flavoured with cumin and caraway seeds. Noyau, or Crême de Noyau, is a French cordial flavoured with bruised bitter almonds. Kirschwasser is a favourite L. in Germany, whilst peppermint is much patronised among certain classes in England.

Liquid, a [illegible] which is capable of flowing [illegible] in contact with [illegible] first place be divided into two classes, solids and fluids. Solids are characterised by having a certain definite shape, which can only be altered by appreciable force being applied. Fluids, on the other hand, have no definite shape, but take the shape of the vessels in which they are placed. Again, in order to separate the particles of a solid, as in cutting, a certain amount of pressure is required, the pressure differing according to the nature of the material. If, on the other hand, a plane surface be passed, in the direction of the plane, through a fluid, the resistance experienced is very small. The particles of a solid therefore are seen to have cohesion, and its structure a certain measure of rigidity. The molecules of a fluid appear to possess freedom of movement, and the slightest force is sufficient to cause change of the relative position of molecules. Fluids may be subdivided as Ls. and gases. If a L., such as water, be poured into a vessel, it will occupy a certain portion of the vessel and no more, but if a gas, such as oxygen, be introduced into a vessel, it will fill the vessel, and however great the capacity of the vessel into which it is placed, some of the gas will be found in every part of it. Ls. have, therefore, a definite volume, while gases have not. The characteristic properties of a theoretically perfect L. may now be summarised. It can be made to flow in any direction in which force is exerted. Under the influence of gravity, it flows towards the centre of the earth unless prevented or diverted by some impervious substance, and when it has ceased flowing it has a definite surface in the horizontal plane, although large surfaces like those of the oceans must of necessity be spherical. Owing to the free mobility of the molecules, pressure applied at any point is distributed in all directions. If a body of lesser specific gravity be placed in it, its weight causes the displacement of a quantity of the fluid. As the weight of the body is less, bulk for bulk, than the L., the displacement of L. ceases before the body is totally immersed, and flotation takes place. The L. does not appreciably change in volume when subjected to forces of compression or when pressure is reduced. It is practically homogeneous if it has not been subjected to change of conditions for some time. When heated it expands as the temperature is raised, but owing to the mobility of the molecules, convection currents are set up if the source of heat is below the L., so that the heat is rapidly carried to all parts of the substance, thus tending to preserve its homogeneity. No such body as a perfect L. exists, and the distinctions between Ls. and solids, and between Ls. and gases are of a practical nature, and do not exist absolutely. No L. flows with perfect freedom; it possesses a certain degree of viscosity, that is, difficulty

of movement of the particles relative to one another. On the other hand, there is no reason for believing that the molecules of solids remain in the same relative positions when subjected to small forces. Generally speaking, the effect of gravitation on a mass of L. is to tend to flatten it if it is without lateral support, unless the motion of the molecules is so slow that chemical changes at the surface set up other stresses. When a solid body is heated to its melting point, the temperature does not rise above that point until the body has become L., but this process is a gradual one. In the case of bad conductors of heat, the solid melts in parts; in the case of good conductors the whole body gradually becomes more plastic until a certain degree of fluidity is attained. If a L. is heated to its boiling point, the temperature does not rise above that point under ordinary conditions of pressure until the L. has been converted into a gas. If the source of heat is below the L., gaseous portions from the bottom rise and break through the surface, so that a definite surface is maintained between the substance as L. and the substance as gas. The boiling-point depends, however, upon pressure, and it has been found that if a L. is heated under circumstances which do not admit of the expansion of the vapour, so much pressure is exerted by the vapour that the rise in temperature proceeds far beyond the ordinary boiling-point, although part of the substance is still L. At a certain temperature, which varies for different substances, the free surface between L. and gas disappears, and a zone of a nebulous nature appears, which gradually spreads upwards and downwards until the whole becomes homogeneous. This condition is called the critical state, and is apparently analogous to the condition between solid and L., which may be called either plasticity of the solid or viscosity of the L. The solid, L., and gaseous conditions may, therefore, be looked upon as three states in which all substances may exist under differing conditions, and which have widely different characteristics, although under certain conditions those characteristics may become modified in the direction of each other. Properties of Ls. derived from the mobility of their molecules are discussed in a theoretical manner in the science of *Hydromechanics*, divisible into *Hydrostatics* and *Hydrodynamics*, while the more practical aspects form the subject matter of *Hydraulics*.

Liquidation, *see* COMPANY.

Liquorice, a substance which is extracted from the roots of *Glycyrrhiza glabra*, a herbaceous perennial plant found in Southern Europe. It has pinnate leaves, bluish flowers, and a tap root. This latter, which is about an inch in diameter, is sliced and boiled, and an extract known as 'Spanish juice' is obtained by evaporation. As this solidifies it is rolled into sticks about 6 or 8 in. long and wrapped in bay leaves. It is sweet to the taste, and is much used as a demulcent in medicine.

Liquor Laws, *see* LICENCE AND LICENSING LAWS, and LOCAL OPTION.

Lira, an Italian silver coin, which corresponds to the franc of the Belgians, Swiss, and French, and is divided into 100 centimes.

Liria, a tn. in the prov. of Valencia, Spain, on the l. b. of the Guadalaviar 15 m. N.W. of Valencia. The principal products are wine and olives. Pop. 9000.

Liriodendron, *see* TULIP TREE.

Lisbon, the cap. of Portugal, on the Tagus, 10 m. from its mouth. It is built on a succession of hills, some of them 300 ft. high, and has a very picturesque appearance. It is divided into four municipal districts: the Alfama, or old town, in the E.; the Cidade Baixa, which extends inland from the naval arsenal and custom house; the Bairro Alto, the high ground W. of Cidade Baixa; and the Alcantara, or westernmost district. The Alfama contains the Castello de Sao Jorge, a Moorish citadel, the Sé Patriarchal, a cathedral founded in 1150, said to have been a Moorish mosque; the 12th century church of Sao Vicente de Fora; and the Church of Nossa Senhora da Graça (16th century), which contains a wonderful figure of Christ. The modern town dates from the period after the great earthquake in 1755, and has long, straight streets and handsome buildings, including a national museum of art, containing Flemish-Portuguese paintings of the 15th century, and gold and silver works of 15th and 16th centuries, and a public library with about 256,000 volumes and 15,000 MSS. L. is also the seat of an archbishop with the title of patriarch, and of parliament, the Palacio das Cortes, in which the Houses sit, being a 16th century Benedictine convent. Its port is one of the best in the world and is well protected, and there is steam communication with S. America and Africa, as well as with all European ports. Pop. 357,000.

Lisburn, a tn. in Ireland, in the co. of Antrim. There are interesting historical ruins, such as Castle Robin and the Giant's Ring, an old fortification. A monument is raised to Bishop Jeremy Taylor in the Christ Church

Cathedral, which embraces the three dioceses of Down, Connor, and Dromore. The chief trade is the linen manuf. Pop. (1911) 12,172.

Liscow, Christian Ludwig (1701-60), a German satirical writer, born at Wittenberg, [illegible] satires, which [illegible] personalities, ha[illegible] to-day. He published *Eulogium of Bad Authors*, against the school of Gottsched, and other poems, 1739.

Lisieux, a tn. of France on the Touques, in the dept. of Calvados, 30 m. from Caen. It presents quite a mediæval appearance with its old-fashioned houses and ancient ruins. Buildings of interest are St. Peter's Church and the episcopal palace. There is an extensive woollen trade. Pop. 16,200.

Liskeard, a tn. and [illegible] in the co. of Cornwall, [illegible] S.E. of Bodmin. Th[illegible] country is picturesque there are stone and slate quarries in the neighbourhood. L. itself stands on a hill overlooking the R. Looe. Pop. (1911) 12,172.

Lisle, Alicia (*c.* 1614-85), the daughter and heiress of Sir White Beckenshaw, and wife of John L., whom she married in 1630. During her husband's lifetime she probably shared his fortunes, but after his death, in 1664, she retired to Moyles Court, and in 1685, at the time of Monmouth's rebellion, sheltered some of his supporters. She was tried before Jeffreys and beheaded at Winchester.

L'Isle-Adam, *see* VILLIERS DE L'ISLE ADAM.

Lismore, an island at the mouth of Loch Linnhe, Argyllshire, off the W. coast of Scotland. It measures 9¼ m. in length, and 1¾ m. in breadth. The lower portion of Loch Linnhe is divided by this island into two channels, the Lynn of Morven and the Lynn of Lorne. The island was at one time the seat of the bishops of Argyll, who occupied Achinduin Castle, now a ruin. 2. A tn. in the co. of Rous, New South Wales, Australia, on the R. Richmond. It is a Roman Catholic centre. The district is fertile, and there is a brisk trade in dairy produce and eggs. 3. A tn. of Ireland [illegible] W.N.W. [illegible] a rocky [illegible] water. [illegible] castle [illegible] Carthagh. Pop. (1911) 1600.

Lissa: 1. The outermost island of the Dalmatian Archipelago. The principal products are wine and sardines. Pop. 10,107. 2. A tn. in Posen, Prussia, 25 m. N.E. of Glogau. The chief manufs. are cloth, linen, shoes, and machinery, and there is also some trade in fur. Pop. 17,156.

Lissone, a tn. of Italy in the prov. of Milan. Pop. 7800.

List, Friedrich (1789-1846), a German economist, born at Reutlingen. [illegible]s a disciple of Adam Smith, but with Hamilton in his stric[illegible]n his doctrines. His chief work was *Das Nationale System der Politischen Ökonomie*, 1841. L. strongly advocated the extension of the German railway system, and the establishment of the 'Zollverein' was largely due to him.

Lister, Joseph, Lord (1827-1912), a British surgeon, born at Upton, Essex. From 1860-69 he was professor of surgery at Glasgow University, and from 1869-77 professor of clinical surgery at Edinburgh Uni[illegible], and from 1877-93 at King's [illegible] London. He was serjeant-to Queen Victoria in 1878, ated a baronet in 1883, and first baron in 1897. He was president of the Royal Society from 1895-1900, and president of the British Association in 1896. He is famous for the discovery of the antiseptic system of treatment, which has revolutionised modern surgery.

Lister, Joseph Storr, I.S.O. (*b.* 1852), a Justice of the Peace and Road Magistrate for Cape of Good Hope. He has made a special study of forestry, and has been entrusted with many important commissions connected wi[illegible] the investi[illegible] the Trans[illegible] of a Fores[illegible] Zululand [illegible] Free State [illegible] Conservat[illegible] of S. Africa in 1910.

Liston, John (1776-1846), an actor, born in Soho. He first appeared in the N. of England with Kemble, but afterwards played at the Haymarket (1805), Covent Garden (1808-22), Drury Lane (1823), and the Olympic. Among his rôles may be mentioned those of Polonius, Slender, Diggory, Sir Andrew Aguecheek, Bottom, Cloten, and Captain Dalgetty.

Liston, Robert (1794-1847), a surgeon, born at Ecclesmachan, Linlithgow. From 1818-28 he was a lecturer on s[illegible] in 1835 was [illegible] surgery at [illegible] don. He w[illegible] his name still survives in the 'Liston splint,' used in the treatment of dislocation of the thigh. He wrote *Elements of Surgery*, 1831; *Practical Surgery*, 1837.

Listowel, a tn. of Ireland in the co. of Kerry, on the Feale, 15 m. N.E. of Tralee. Pop. (1911) 4300.

Liszt, Franz (1811-86), a composer, conductor, and virtuoso pianist, one of the most important figures in the development of modern music, born at Raiding in Hungary; studied under Czerny and Salieri in Vienna (1821-23), Paer (1823), and Reicha (1826) in Paris. By this time he had won considerable fame as a pianist in Vienna, Paris, and London. During his sojourn in Paris in 1830-32, he came into touch with the Romantics (Berlioz, Chopin, George Sand, etc.); and two years later he began his liaison with the Countess d'Agoult. The next few years were spent travelling in Switzerland and Italy; he has recorded his impressions in the famous *Années de Pèlerinage* (1842). These pieces, the great B-minor Sonata (1853), and the two Concerti are the finest of his innumerable contributions to pianoforte literature, which include transcriptions of songs and of symphonic works, formidable *études*, etc. His chief orchestral writings are connected with his Weimar career (1848-61), *e.g.* the symphonic poems, the *Dante* and *Faust* symphonies, etc. In 1865 he took holy orders, becoming an abbé; and henceforward his works were principally of a sacred character: the *Graner* (1866) and other masses, *Christus* (1866), psalms, and the Requiem for male voices and organ. He also left some very beautiful songs which are unjustly neglected. *See* Arthur Hervey's *Franz Liszt* (Lane, 1911).

Li-tang, a tn. of Sze-chuen, China, on the Tibet route.

Litany (Gk. λιτανεία), a form of prayer originally only used in times of distress. It consisted of penitential [illegible] sung by the [illegible] cession. The [illegible] is uncertain; 446 is given for Constantinople, and the time of Justinian for Antioch, and Mamertus of Vienne is said to have composed (*c.* 450) a L. for use at Ascensiontide in parts of Gaul. But whatever the date was, Ls. were common in the 6th century; the first synod of Orleans (511 A.D.) enjoined their use for three days before Ascension all over Gaul, while the synod of Gerunda (517) provided for two sets of Ls., one to be observed for a week at Whitsuntide, and another at the Feast of All Saints. Again, a synod of Paris (573) ordered Ls. to be said for three days at the beginning of Lent, and the fifth synod of Toledo (636) gave injunctions for the recital of Ls. for three days from Dec. 14. The word is first mentioned in connection with the Roman Church in 555, but Ls. were probably in use long before that time. In 590, Gregory the Great introduced a 'litania septiformis,' or a sevenfold procession of clergy, laymen, virgins, married women, widows, poor, and children. He also probably instituted the processions or Ls. for St. Mark's Day, which the synod of Cloveshoe (747) ordered to be held 'after the manner of the Roman Church.' The L. probably consisted at first of the words, 'Kyrie eleison,' but became gradually enlarged, and later on was addressed to the Holy Trinity, the Blessed Virgin, and Saints, the people's response being 'Ora pro nobis,' if it was directed to the Virgin, or a saint, and 'Libera nos,' if addressed to the Deity. The form in the Anglican Prayer-Book contains no invocation of the Virgin or saints, but otherwise is similar to the ancient form. It is, however, no longer a distinct service (since 1611), but forms part of the Morning Prayer after the third collect for Grace.

Litchfield, a city of Montgomery co., Illinois, U.S.A., 50 m. N.E. of St. Louis. It is an important railway centre, and coal, fire-clay, and oil are found in the neighbourhood. Pop. (1910) 5971.

Litchi, or Leechee, *see* NEPHELIUM.

Literary Forgery, consists in the publication of literature which purports to be what it is not. It has been practised by many writers, and a notable example was the *Epistles of Phalaris*, a late Greek forgery, proved to be such by Bentley in 1697. Among literary forgers may be mentioned: (1) George Psalmanazar (*c.* 1679-1763), who invented an elaborate alphabet and grammar and religion of his own, and presented Bishop Compton with the catechism in his invented language which he styled 'Formosan.' He also published a fabricated 'Description' of Formosa in 1704. (2) James Macpherson (1736-96), who issued two epic poems, *Fingal* (1762) and *Temora* (1[illegible] be translated f[illegible] called Ossian. [illegible] ton (1752-70), who began to fabricate Thomas Rowley's verses (1765), which were published as genuine 15th-century poems in 1777 and 1782. (4) Bodmann (1754-1820) professor and librarian at Mainz, who forged two, at least, of Johann Gutenberg's works, one of which he purported to be an autograph letter of Gutenberg to a fictitious sister of his named Bertha. (5) William Henry Ireland (1777-1835), who forged deeds and signatures of, or relating to, Shakespeare (1794), made a transcript of *Lear* and extracts from *Hamlet*, in feigned handwriting, deceiving even such experts as Joseph Warton and George Chalmers, and fabricated

pseudo-Shakespearian plays, *Vortigern* and *Rowena*, and *Henry II.* (6) John Payne Collier (1789-1883), who forged marginal corrections in the Egerton folio of Shakespeare before 1841, and in the Perkins' folio before 1852, and brought out editions of Shakespeare based on these forgeries. (7) Richard Pigott (*c.* 1828-89), who wrote articles entitled 'Parnellism and Crime,' in *The Times* newspaper, in which he libelled the Home Rule party, and also published letters purporting to have been signed by Parnell which condoned the *Phœnix* Park murders.

Literary Fund, Royal, was founded in 1790 by David Williams, and has for its object the assistance of necessitous authors, their widows and orphans, or mothers or sisters. The fund has an income of about £4000, [illegible] £780, [illegible] its [illegible]

[illegible] lead (PbO). It is obtained by oxidising lead at high temperature, two forms of the monoxide being known; one form, called *massicot*, is obtained at moderately high temperatures, while the second form, or L., is obtained in the process of cupellation. In this process lead which is known to contain silver is heated in a furnace made of bone ash mixed with pearl ash, and subjected to an oxidising atmosphere. The lead is oxidised to L., which is blown off by a special blast, or is absorbed by the bed of the furnace, leaving the molten silver behind. L. is a yellowish powder, and is used in the manufacture of flint glass, and of glazed earthenware, and in the preparation of quick-drying oils and varnishes. It is the source of the preparation of lead nitrate and the basic acetate used for pharmaceutical purposes.

Litherland, a par. and market tn. of Lancashire, England, 5 m. N. of Liverpool, of which it is a suburb; has manufs. of matches. Pop. (1911) 14,796.

Lithgow, a township of Cook co., New South Wales, 70 m. W.N.W. of Sydney, in a valley of the Blue Mts. There are potteries, breweries, iron works, saw mills, and brickfields. Pop. (1910) 8260.

Lithgow, William (1582-1650?), a Scottish traveller and writer, born in Lanark. He left Scotland about 1610 and for nineteen years travelled in Europe, the Levant, Egypt, and N. Africa. The account of his adventures, including his narrow escape from the Inquisition at Malaga through the intervention of the English Consul (1621), will be found in his *The Totall Discourse of the Rare Adventures and Painfull Peregrinations of long Nineteene Yeares Trawayles* (London), 1632 (new ed. 1906). Other writings of his are: *A True and Experimentall Discourse upon the last siege of Breda*, 1637; an account of the siege of Newcastle and battle of Marston Moor (1645), and six poems (1618-40).

Lithic Acid, *see* URIC ACID.

Lithium, a metallic element of the alkali group, formula Li, atomic weight 7. It is a rare metal, but is widely distributed in small quantities in sea and river water, in plants and less widely distributed in larger quantities in the mineral silicates petalite (3 per cent.), lepidolite, or lithia mica (5 per cent.), triphyline, and spodumene. It is prepared by electrolysis of the fused chloride ob- [illegible] L. is a silvery- [illegible] uts easily and [illegible] is extremely [illegible] ·59), and has a [illegible] (180° C.) than [illegible] s. The carbon- [illegible] ed in medicine in cases of gout and gravel.

Lithography (Gk. λίθος, a stone, and γράφειν, to write), the process of drawing upon and printing from stone. The principles upon which the process is based are the antagonism of grease and water, the disposition of greasy substances to adhere to one another, and the property of absorption possessed by calcareous stones. A chemically pure surface is covered in the portions it is intended to print, with a greasy composition (*i.e.* has a drawing, etc., made on it), and the rest of the surface is moistened, so that the application of a greasy roller causes the resistance of the wet portion, but not of the greasy part, and an impression can readily be taken from the surface when treated in this manner. The best stone for lithographic purposes are those first used by the inventor of the process, Senefelder (*see below*), which are found in the district between Pappenheim and Killheim in Bavaria. It is a species of slaty limestone of a nondescript yellow hue. The thickness required for printing is from 1½ to 4 in., according to the size of stone required. Before being ready for use, the stones are shaped, levelled, ground, and polished, and, if necessary, grained. Lithographic ink is made from wax, white soap, tallow, shellac, mastic, and lamp-black; chalks, or crayons (so called merely because their appearance and use are similar to the chalks [illegible] for drawing on [illegible] black added. The ingredients are

subjected to the action of heat until fused and then poured on a slab to cool, after which they are cut into the required sizes. Crayons are used on grained stone, and ink on polished stone. Much of the work is now done on transfer paper, thus obviating the necessity of the work being executed in the reverse way. There is not sufficient space within the limits of this article for any detailed description of the various processes of lithographing, but a brief *résumé* may be given. *Drawing on smooth stone* is carried out with steel pens and sable hair brushes; the design is drawn on the stone in reverse, after which it is etched with dilute nitric acid before being printed, or with acid and a solution of gum arabic. *Chalk drawing on grained stone* is a very delicate operation, as the tones have to be equalised, and the gradations of colour perfected, by repeated touches and by picking with needles. *Engraving on stone.*—The stone, after being prepared with a solution of acid and gum is washed, dried, and rubbed with a red or black powder. The lines of the drawing are scratched through this into the stone, spread with linseed oil, and charged with printing ink before the impressions are taken. *Etching on stone* is similar to etching on copper, and the stone is prepared in the same way; the biting-in effect is obtained by dilute acetic acid, and the lines filled in with printing ink. It is in this department, especially, that the use of prepared paper has superseded drawing direct on to the stone. (For chromo-lithography and tinting, the former process being a series of printings from separate stones, and the latter including all colour-printing in flat or uniform single colours, *see* articles on PRINTING, and also on PHOTOGRAPHY.) Steam power began to supersede manual labour in the lithographic press about 1850. (*See* PRESS and PRINTING for a description of the machinery.) L. was invented by Alois Senefelder (1771-1834), and it is remarkable what a firm grasp of its principles he manifested from the beginning. *See* his *Complete Course of Lithography*, 1819; *see also* W. D. Richmond, *Grammar of Lithography*; D. Cumming, *Handbook of Lithography*, etc. *See also* articles on ETCHING, ENGRAVING, etc.

Lithology, *see* PETROLOGY.

Lithomarge, a variety of clay consisting of a combination of silica alumina and oxide of iron. It is usually white or grey in colour, soft, greasy, and easily sextile in character, and abounds in the tin mines of Cornwall, in Germany, and America.

Lithophagidæ (Gk. λίθος, stone; φαγεῖν, to eat), a family name formerly applied to some bivalve molluscs, but its component species are now divided among other families, and the term is no longer used. The significance of the name is that the animals burrow in rocks and other hard objects.

Lithotomy, a cutting operation for removal of stone from the bladder. Formerly, the incision was made from the perineum, but this method is now superseded by the supra-pubic operation. The patient is placed upon his back and a hot boracic lotion is injected into the bladder, so that it rises above the region of the pubes, and the lotion is retained by plugging the end of the catheter. The incision is then made in the abdomen low enough to avoid the peritoneum, and the bladder wall opened. As the contained lotion rushes out, the bladder wall is temporarily sutured to the surrounding muscular fibres, so that the opening is kept above the pelvis when the lotion is discharged. An examination of the size and position of the calculus is made with the fingers, and the removal is effected with forceps. The operation is now in many cases superseded by *lithotrity* (*q.v.*), except in young boys, where the danger from L. is comparatively small.

Lithotriptics, the branch of surgical science dealing with the removal of calculi or stones from the bladder. *See* LITHOTRITY.

Lithotrity, an operation for the removal of stones from the bladder by crushing. The method is now often called *litholapaxy*, to distinguish it from the older method, which was performed in two or more sittings. The modern operation is performed by means of a special instrument called a lithotrite, consisting of two blades which may be brought together by means of a screw. This is introduced into the bladder by way of the urethra, the stones are grasped one by one and crushed between the blades, care being taken not to nip the wall of the bladder. The crushed material is then withdrawn from the bladder by means of an 'aspirator,' a rubber ball filled with boracic lotion which discharges lotion into the bladder on being squeezed and withdraws it on being relaxed. A special trap is provided to catch the crushed stones as they are withdrawn.

Lithuania, a dist. in the N.W. of Russia in Europe, lying between 50° 30′ and 57° 45′ N. and between 20° 50′ and 28° 20′ E. It was formerly independent, but finally united to Poland in 1569. At the time of its greatest power, after its ruler, Jagellen, was converted from paganism to Christianity in 1397, L. ex-

tended to the E. almost as far as Moscow and southward to the Black Sea. The Lithuanians were pagans up till 1397, but since the union with Poland, Roman Catholicism has been the prevalent form of religion. The country is cold, flat, and unproductive, being largely covered with forests and marshes; corn, flax, rye, and hemp were produced however. From the date of its union with Poland, the history of the two is the same (*see* POLAND). At the fall of the kingdom of Poland, Russia took the provinces of Moghilev, Polotsk, Vilna, Troki, Novgorod-Syeversk, Brest, and Vitebsk, and constituted them 'the Lithuanian government'; the name of Lithuanian provinces is, however, generally used only for Vilna and Kovno, which are described as such even in official documents in spite of the czar's prohibition of the name in 1840. From the 10th century the Lithuanian peoples have been divided into the three branches of Prussians, Letts, or Latvis, and Lithuanians proper. The Prussians are mostly confined to the Baltic coast chiefly to the E. of the Vistula; they have been largely absorbed by Germanic peoples. The Letts occupy a part of the Courland peninsula of Livonia and Vitebsk. The Lithuanians proper mingled very closely with the Poles, and at the fall of Poland fell to a great extent into the position of serfs [illegible] Russian landowners. Th[illegible] tongue is closely akin to [illegible] and is far the most archaic of spoken Aryan languages.

Litin, or Litinsk, a tn. of S.W. Russia, gov. of Podolia, cap. of the dist., and 75 m. N.E. of Kamenets-Podolsk on the Zgar. Pop. 10,000.

Litmus, a colouring matter, manufactured in Holland from the lichen (*Lecanora tartarea*), and in S. Africa and Chile from *Rocella tinctoria*. It is prepared by fermenting the matter obtained from the lichen with potassium carbonate. It is sold in small blue tablets, which more often consist of calcium carbonate and sulphate than the proper pigment. It is largely used by chemists in testing, being turned blue by alkalis and red by acids.

Litre, or Liter (Fr. *litre* from Gk. λιτρα), a measure of capacity in the metric system of France, being a cubic decimeter, and equal to 61·022 cubic in. or 1·76 English pints. It is used both as a dry and liquid measure.

Littleborough, a tn. in Lancashire, England, 3 m. N.E. of Rochdale. It has manufs. of woollen goods and cotton goods, chiefly calico, and there are collieries, iron mines, and stone-quarries in the vicinity. Pop. (1911) 11,705.

Little Colorado, a riv. in the S.W. of the U.S.A., rising in the W. of New Mexico and flowing W. and N.W. to join the Colorado R. (a total length of 277 m.) at the southern end of the Marble Canyon. Its course lies over a barren plateau, in which, for the last 27 m. of its course, it cuts a ravine 1800 ft. deep.

Little Egypt, the country from which the wandering tribes of the Gypsies asserted that they had been driven by the Turks when they first appeared in Europe in the 14th century. According to the historian Albert Krantz, there first appeared in Germany in 1417 an uncouth, black, dirty, barbarous people, called by the Italians 'Ciani,' who alleged that they came from 'Litell Egypt' and were on their way to Rome on a pilgrimage of expiation for some sin of which the accounts differ. By 1500 they had reached England, for in 1505 James IV. of Scotland gave to 'Antonius Gaginæ, Count of Little Egypt,' letters of recommendation to the King of Denmark. Where they originally came from is still uncertain, Grellmann (1733) asserts that their speech is closely allied to some Indian tongue, and that they came from India, and various writers have upheld the theory that they are [illegible] descendants of the ancient [illegible] driven out of Egypt by [illegible]ens. The most generally accepted site of 'Litell Egypt,' however, is in the Peloponnesus, probably in Epirus. Mazaris, a Byzantine author, writing about 1416, mentions the 'Egyptians' as living in the Peloponnesus, and their own earliest story, that they had been driven out of 'Litell Egypt' by the Turks, is supported by the adoption of the Turkish [illegible] in 1652 of the [illegible] and Lesser Eg[illegible]. *Dissertation* (Eng. trans.), 1787; also *Journal Gypsy Lore Society*, April 1909.

Little Englander, a nickname given by [illegible] opponents, the [illegible] who, they believe, are opposed to the extension of the British empire, or even its maintenance in its present condition.

Little Falls: 1. A city and co. seat of Morrison co., Minnesota, U.S.A., on both banks of the Mississippi, 88 m. N.W. of Minneapolis. Pop. (1910) 6078. 2. A city of Herkimer co., New York, U.S.A., on the Mohawk R., 21 m. E.S.E. of Utica. Manufs. include bicycles, cotton, yarns, hosiery and knitted goods, paper, and leather. Pop. (1910) 12,273.

Little Fish Bay, *see* MOSSAMEDES.

Littleham, a vil. and par. in Devonshire, England, 2 m. E. of Exmouth. Pop. (1911) 5800.

Littlehampton, a par., seaport, and watering-place, Sussex, England, at the mouth of the Arun R., 10 m. E.S.E. of Chichester. It has a safe harbour and is the trading port of Arundel. Its fine beach and golf links make it a favourite health resort. Pop. (1911) 8,351.

Little Java (Malay Archipelago), *see* BALI.

Little John, *see* ROBIN HOOD.

Little Missouri, a trib. of the Missouri R., U.S.A., rises in Crook co. in the N.E. of Wyoming, and flowing in a N. and N.E. direction through S.E. Montana, N.W. of S. Dakota, and N.E. of N. Dakota, to join the Missouri. Length 450 m.

Littlemore, a vil. of Oxfordshire, 2½ m. S.E. of Oxford.

Little Popo, a dist. and tn. of Togoland, German W. Africa. Chief tn., Anecho.

Little Rock, a city and cap. of Arkansas, U.S.A., and co. seat of Pula[illegible] m. W. It is the most populous and important commercial and manufacturing city of the state. The chief industries are cotton and lumber works, cotton-seed oil and cake, foundries and machine shops. Pop. (1910) 45,941.

Little Russia, a part of S.W. Russia, comprising the govs. of Kharkov, Kiev, Poltava, and Tchernigov. The Little Russian language closely resembles the Ruthenian of Poland and Hungary. Area 80,214 sq. m. Pop. 14,058,000.

Little Sioux River, Iowa, U.S.A., rises in the N. of the state and flows S. to join the Missouri about 16 m. S. of Onawa city. Length 300 m.

Littlestone-on-Sea (Kent), *see* ROMNEY, NEW.

Littleton, Sir Thomas (c. 1407-81), an English judge and legal author. He became a judge on the northern circuit in 1455 and judge of the court of common pleas in 1466. His *Treatise on Tenures* was probably written after his last appointment, but was not published until after his death. It was addressed to his second son and was written in 'law French.' Its first edition (probably 1481) was one of the earliest printed books, and it has since been repeatedly edited and annotated, notably by Sir Edward Coke. See also *Paston Letters*, edited by Gairdner, 1872.

Litton, Marie (*née* Lowe) (1847-84), an actress, made her first appearance on the stage in 1868 as Effie Deans in Boucicault's version of *The Heart of Midlothian*. After acquiring further experience, she in 1871 became manager of the Court Theatre for three years, and from 1878 of the Imperial Theatre. Her personal successes were in old comedy, and she won much praise in such parts as Rosalind, Lady Teazle, Lydia Languish, and Miss Hardcastle.

Littonia, a genus of liliaceous plants contains only two species. Both of these are natives of S. Africa and *L. modesta* is found in Natal. In habit they are like *Gloriosa*.

Littoral Deposits, the deposits of sands, gravels, muds in the comparatively shallow water on the seashore, especially the zone between the high-water and low-water mark. On the seaward side they merge gradually into the fine muds and organic oozes of the deep-water deposits.

Littré, Maximilien Paul Emile (1801-81), a French lexicographer and philosopher, born in Paris. He fought on the Barricades in the revolution of 1830, and obtained an introduction to Carrel, the editor of the *National*. In 1835-36 he became a regular contributor to both the *National* and *Revue des Deux Mondes*. In 1839 appeared the first volume of his translation of Hippocrates, completed in 1862. At this time he made the ac[illegible] and adopted the of his friend, *[illegible]lication de la Gouvernement Révolution, et [illegible]roles de Philo-* and *Auguste Positive* (1863). His translations include Pliny's *Natural History* (1848-50) and Strauss's *Vie de Jésus* (1839-40). He was also on the committee for the preparation of *Histoire Littéraire de la France*. His great *Dictionnaire de la Langue Française* appeared 1863-72, and *Histoire de la Langue Française* in 1862. In 1871 he was elected a member of the *See* Sainte-*[illegible]ittré*, 1863; M. *Nouvelle Re-*[illegible]*Caro, Littré et*

[illegible] its a ser- to the [illegible]erally translated by 'ministry,' as, for example, in Rom. xv. 16, where the word translated 'minister' is λειτουργον. The word λειτουργία was early appropriated by Christians to designate the ceremonies of the Church, and finally became restricted to the Holy [illegible] tirely out of popular usage. Here the

holy sacrifice is commonly termed the Mass, though the ancient title is frequently used in liturgical treatises. It is possible that traces of a L., in the sense of a set form of eucharistic offering, is to be found in the books of the N.T., and, indeed, the very circumstances of the institution of the sacred rite demand the tradition both of the manual acts and of a general order. Many liturgical authorities have held it probable that some of the references to the celebration of the Lord's Supper in the Pauline writings are quotations from some L. During the first centuries the sacred rites were celebrated with the greatest secrecy, and references to the manner of their celebration are therefore rare. A somewhat confused outline is given by Justin Martyr in his *Defence of Christianity*, but a clearer idea of the form of the rite is given in the eighth book of the *Apostolic Constitutions* (*q.v.*). It bears a much closer affinity to the Eastern rites than to the later Western ones. Unfortunately, the early history of the great Western L., that of St. Peter, is extremely obscure. It can be studied only in the present Roman rite and in the Ambrosian rite still used in the diocese of Milan. The Roman Ls. are distinguished by the position of part of the great intercession being between the Sanctus and Consecration; also by the position of the Pax after the Consecration. Varieties of the Roman use, differing but slightly from the modern Roman, are to be seen in the various local uses of [illegible] nglish on esent Ar local rites had probably some further connection with the extinct Gallican rite, of which several books remain. With the Mozarabic L., which in a debased form still survives in parts of the Spanish city of Toledo, it belonged to the Ephesian group of Ls. Liturgical research has made great strides of recent years, and a large amount of literature is available on the subject. For the Ls. themselves, *see* Brightman's *Liturgies Eastern and Western*, 1896; also Warren's *Liturgy of the Ante-Nicene Church*, 1897; Duchesne's *Origines de Culte Chrétien* (Eng. trans. of 3rd ed.), 1904; and a series of Christian Ls. published by Cope and Fenwick, 1908, etc.

Liu-Kiu, *see* Loo Choo.

Liu-kung, or Lambay, an island of China, off the S.W. coast of Formosa, 18 m. S.E. of Takow. It is noted for fine marine shell-fish. Pop. 4000.

Liutprand, or Liudprand (*c.* 922-972), an Italian chronicler and Bishop of Cremona. He became chancellor of King Berengar, and was sent on an embassy to Constantinople in 949. Falling into disgrace with Berengar, he joined Otto I. of Germany, and accompanied him in his invasion of Italy. He was frequently employed in embassies, and his description of the one to Constantinople in 968, *De Legatione Constantinopolitana*, is one of the best satires of the 10th century. His *Antapodosis*, a history of the period from 887-949, was designed as a revenge upon Berengar. His *Historia Ottonis*, 960-964, is of considerable historical value. All are to be found in *Monumenta Germaniæ Historica*. *See* Köpke's *De Vita Liudprandi*, 1842, and Baldeschi's *Liudprando*, 1889.

Livadia (ancient *Lebadeia*), a tn. in the nomarchy of Attica and Bœotia, Greece, on Lamos, near Lake Copais, 52 m. N.W. of Athens. Lebadeia was famous for its subterranean oracle of Trophonios. The modern town manufactures cotton goods, and has a trade in rice, grain, and oil. Pop. 6500.

Livadia, a township on the S. coast of the Crimea, S. Russia, 3 m. S.W. of Yalta. It has an imperial palace, a favourite resort of the Czar, Alexander II.

Liveing, George Downing (*b.* 1827), an English chemist and spectroscopist, born at Nayland, Suffolk. He was appointed lecturer on natural science at St. John's College, Cambridge in 1853; professor of chemistry at the Royal Military College, Sandhurst, in 1860; and professor of chemistry, Cambridge, from 1861-[illegible]

1885-88, in conjunction with Professor Dewar; and, with Mr. Warren, *Report on the University Colleges*, 1897, besides many papers on spectroscopy, crystallisation, etc.

Liver, the largest gland in the body. [illegible] ht-hand side of [illegible], immediately and in front of stomach. Its anterior surface is convex, and lies close to the wall of the abdomen. Its posterior surface is slightly concave, and accommodates itself to the shape of the organs with which it is in contact. On the right the upper and posterior surface is in contact with the diaphragm, below this is a deep depression fitting the surface of the right kidney, and the lower part fits round the intestinal portion of the stomach. The vena cava passes through a deep [illegible] median part of [illegible] in the middle l [illegible] pression marks the passage of the œsophagus. The greatest thickness

is on the right side, and from there the L. tapers down in front and below to a sharp edge. The colour of the L. is reddish brown, and its weight is in the neighbourhood of 3 or 4 lbs. The L. consists of five lobes: the right, the left, the lobus spigelli, the lobus quadratus, and the lobus caudatus. The lobes are made up of a large number of lobules, conical in form. Each lobule is covered with connective tissue and contains hepatic cells, capillaries, arteries, veins, lymphatics, and biliary channels. The blood is brought from the digestive tract, and the spleen to the L. by the portal vein, from which intralobular veins branch out to lead around the lobules, while the cells are fed by intralobular capillaries from the introlabular veins. The intralobular capillaries are received by a central vein in the core of the lobule, which leads to a sublobular vein, and ultimately into the vena cava. The L. secretes bile, which is conveyed either directly or by way of the gall-bladder to the common bile duct which leads to the second part of the duodenum. The functions of the L., once thought to be simple, are now known to be very complex. Much of its work consists in the secretion of bile. This is a golden-brown liquid secreted by the hepatic cells, and is probably mostly of the nature of an excretion, its functions in the digestive processes having been formerly over-estimated. It contains two pigments, bilirubin and biliverdin, which are produced by the decomposition of hæmoglobin. It also contains organic salts, the chief of which are sodium taurocholate and

in the intestines and aid in the absorption of other food material. They probably also serve as a natural antiseptic for the intestines. Another important function of the L. is the production and storage of glycogen, or animal starch. Carbohydrates are converted by digestive action in the intestines into the sugar glucose, which is finally used up, particularly in muscular tissues, for the production of muscular energy. The muscles are capable of storing up a certain amount of glucose, but this is not sufficient to keep the body active for any length of time. The L., however, acts as a storehouse for sugar. As digestion proceeds, the glucose is taken up by the L., converted into glycogen and reconverted into glucose gradually, according to the needs of the system. A disturbance of this function of the L. is, therefore, bound to be accompanied by a lack of enduring power in the muscles. Another function of the L. is the regulation of the number of red corpuscles in the blood. The production of hæmoglobin, the red colouring-matter of the blood, is ordinarily a function of bone-marrow, but in the fœtal stage, there is little doubt that the L. aids in the supply of hæmoglobin. The excretion of effete and broken down red corpuscles is undoubtedly one of the functions of the L. Whether the destruction of the corpuscles takes place in the L. is not known, but the waste products go to form the pigments of the biliary secretion, and are thus excreted. Still another function of the L. is the disposal of waste or excessive proteid matter. The proteins are broken up in the stomach into peptones; these are converted into amino-acids by the pancreatic juice, and are carried off by the blood stream to build up the tissues. Many of the amino-acids are, however, of little or no nutritive value, and these are converted by the L. into urea, which is then carried to the kidneys, and finally excreted in the urine. With its multiplicity of function, the L. is specially liable to derangement, either temporary or more permanent. Sheer overwork of the L. is undoubtedly the cause of many bodily ailments, and the obvious cure is a period of rest. The beneficial effects of a spare and plain diet are due, to a great extent, to a relaxation of the strain upon the L. The accumulated poisons may then be quickly eliminated from the body, and healthy conditions are likely to continue until

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blood, and the development of new fibrous tissue within the organ. This leads to a condition known as *cirrhosis* of the L. The organ is at first enlarged, but afterwards becomes hardened and reduced in size. Cirrhosis is often the result of spirit drinking, and although it may not be accompanied by painful symptoms, subsequent degeneration of its structure is likely. The blood is not able to pass through quickly enough, and in consequence serum may be exuded from the portal vein into the peritoneal cavity, forming what is known as ascites, or dropsy of the abdomen. *Hepatitis*, or inflammation of the L., is often the result of infection from some other diseased organ. The symptoms are pain and jaundice. Treatment involves rest, aperients, and fomentations to relieve pain. *Jaundice* is a symptom consisting of discoloration of the skin and excretions due to the presence of bile-pigments in the L.; it is a natural consequence

of a derangement of the biliary functions of the L. *Yellow atrophy* of the L. is a rare disease characterised by intense jaundice, and severe nervous symptoms. The L. is invariably much reduced in size; no treatment is of any avail. *Gall-stones* are concretions formed in the gall-bladder or bile-ducts. They give rise to painful symptoms, and may cause an obstruction in the bile-duct, with the possibility of ulceration and perforation of the duct. The stones should be removed by operation.

Liver Fluke, Liver Rot, Distomiasis, Fascioliasis, or Dropsy of the Liver, a parasitic disease most common in sheep, but occurring also in goats, cattle, dogs, horses, and even man. The fluke (*Distomum hepaticum*) belongs to the order Trematoda, or flat suctorial worms. Its life-history is very remarkable. There are seven stages, six of them lived outside the body of the sheep, that in the sheep being the final or adult stage, where eggs are produced, and are passed through the bile duct into the bowels, and expelled. Provided these eggs fall on damp ground, they hatch into ciliated embryos which must find the small water-snail (*Limnæa truncatula*) within eight hours. If successful, the embryo bores into the lung of the snail, and changes into a shapeless bag from which many redíæ are produced by budding. These enter the liver of the snail and feed on it until they turn into tadpole-like cercariæ. These leave the snail, swim to a submerged grass plant, lose the tail, and become encysted. If a sheep eats the grass the cyst dissolves in the stomach and the young fluke passes into the liver. As many as 200 have been counted in one liver, and each fluke produces about 40,000 eggs. The disease is commonest after a wet summer on badly drained ground, as there must be standing water during the warmer weather for the eggs to

tralia where the disease is prevalent. Draining the land thoroughly both improves the herbage and prevents the fluke completing its several stages. Dressings of salt or lime destroy the embryos and the cysts when attached to the grass and also the snails. Liver rot does not occur on salt marshes. Salt may also be given in the food. Symptoms of the disease are a yellowish tinge in the mucous membranes, thirst, and great weakness, while the animal becomes 'pot-bellied,' or dropsical. A dose of 15 grains of ethereal extract of male shield fern for each 11 lbs. of the animal's weight is a remedy for this disease, but affected animals should be fattened on healthy pasture, and slaughtered as soon as possible.

Liver of Sulphur is formed by fusing sulphur with potassium carbonate, the substance being dark brown and unstable. Acids readily decompose it, liberating sulphuretted hydrogen: this occurs when exposed to air, owing to the action of carbonic acid. This has led to its being used internally as a medicine, though it is chiefly used externally in ointments for skin affections. Chemically it consists mainly of sulphides of potassium.

Liverpool, a municipal city, parl. bor., and seaport, in the co. palatine of Lancaster, England. It lies on the slope of the r. b. of the Mersey, the open sea being some 3 m. from the centre of the city. The original borough, which was devastated by the plague in the 16th and 17th centuries, has long since disappeared, and the present city, with its fine streets and buildings, is as healthy as good natural drainage and sanitary reforms can make it. L. is to-day one of the largest trading centres in the world. Originally her dealings were mainly with Ireland, but the opening up of trade with the W. Indies and N. America, coupled with the development of the cotton industry in Lancashire, gave an impetus to her trade, which has continued to increase steadily since the time of the Restoration. Her principal trade now is with N. America, to which no less than six lines of steamers run, besides those to the Canadian ports. The chief import is cotton; grain, provisions, tobacco, sugar, timber, and rum being the next in importance. The manufactured goods of Lancashire and Yorkshire form the principal exports, but wool and salt are also important exports. As a manufacturing centre L. does not rank high, there are extensive engineering works, sugar refineries, and corn mills. Printing on pottery was invented by a L. merchant, John Sadler, and all the early Wedgwood goods were printed at L. Lever watches were also invented in the city by a manufacturer named Litherland. The great feature of L., and the main source of her prosperity is, of course, the docks, and some idea of the increase in her trade may be gained by the following figures: In [illegible] tonnage of ships entering the [illegible] 450,060; in 1910 it was [illegible] dock dues amounting to £1,291,995. The docks are owned by the Mersey Docks and Harbour Board, and lie on both sides of the Mersey. On the Liverpool side they run for 6½ m., extending for over a mile into Bootle. On the other side

they are not so long, but their depth is greater. The water area of the Liverpool docks and basins is 418 acres, and that of the Birkenhead docks, with the great float (120 acres), 165 acres: the lineal quayage on the L. side being 27 m., that of Birkenhead 9¼ m. The corporation started the enclosed docks system in 1709, Thomas Steers being the engineer, but in 1857 the Mersey Docks and Harbour Board took over the management. This board comprises twenty-eight members, twenty-four of whom are elected by the ratepayers on ships and goods, and four by the Mersey Conservancy Commissioners composed of the First Lord of the Admiralty, the Chancellor of the Duchy of Lancaster, and the President of the Board of Trade. It was not until 1843 that the docks were extended to the Cheshire side of the river, and twelve years later before they came into the possession of L. Besides the wet docks, there are three graving docks at Birkenhead, while L. has fourteen. The largest landing-stage is the George's stage, and is now 2478 ft. long, and 80 ft. wide. Originally (1847) it was only 500 ft. long, and there was a space between it and the Prince's stage (1000 ft.); in 1874 it was rebuilt but destroyed by fire, and the present stage was completed in 1896. It rests on floating pontoons, and eight bridges join it to the river wall, while a floating bridge takes the heavy traffic. Extensive dredging operations have been carried on to enable the largest vessels to come up the river, and a formidable array of warehouses supply accommodation for a variety of goods. The city is rich in fine parks and public gardens, there being over 1000 acres devoted to this use. The largest of these is Sefton Park (269 acres), which was opened in 1872, though Prince's Park was laid out in 1843. Four other parks have since been made, Wavertree Park having botanic gardens. L. contains many fine buildings, though they are all more or less modern. Of these St. George's Hall (1854) is the finest. The town hall in Castle Street is another noted building. The municipal offices, in the Palladian style, were built in 1860, and the exchange and revenue buildings should be mentioned. L. cathedral was commenced in 1901, the foundation stone being laid by Edward VII., and the foundation stone of the chapter-house two years later by the Duke of Connaught. The designs are by G. F. Bodley and G. Gilbert Scott, and when finished it will be the largest cathedral in the country. L. is possessed of three terminal passenger stations, the London and North-Western at Lime Street, the Lancashire and Yorkshire at Exchange, and the Midland, Great Northern, and Great Central at Central, while the Mersey Tunnel (1886) connects it with the railways on the Cheshire side of the river. There is also an overhead electric railway running along the docks from Seaforth to Dingle which connects with the Lancashire and Yorkshire Railway, and the Riverside Station at the Prince's Dock, connecting the landing stage with the London and North-Western. There is also an extensive system of electric tramways run by the corporation. The city is lighted by electric light, and the water supply is excellent, being obtained from reservoirs at Rivington (Lancashire) and Lake Vyrnwy (N. Wales); the latter opened by the Prince of Wales (George V.) in 1910. The city is divided into thirty-five wards, it possesses a lord mayor (1893), 34 aldermen, and 103 councillors, and returns 9 members to parliament. Since 1309, when Thomas, Earl of Lancaster made a grant, the corporation have owned a good deal of property bringing in a considerable income, and in olden times the fee farm rents and town dues, purchased from the Molyneux family in 1672, and later converted into a perpetuity, were an additional source of income; but in 1856 a bill was passed in parliament transferring these to the Mersey Docks and Harbour Board for the sum of £1,500,000. Quarter sessions are held eight times a year, and the Court of Passage sits five times a year; this latter dates back to the time of King John, and deals with cases relating to the imports and exports of the city. L. originally belonged to the diocese of Chester, but in 1880 they were divided, and L. was made a separate see, Dr. J. C. Ryle being the first bishop, and the old parish church of St. Peter being turned into the pro-cathedral. It is also a Roman Catholic see. The city supports several charitable institutions, of which the oldest is the Blue Coat Hospital for orphans, founded 1708. The free library, which contains a very fine [illegible] was built by Sir [illegible] 0; adjoining it [illegible] llery, built by [illegible] 1877, and en- [illegible] It contains a [illegible] paintings, including the Roscoe collection of some 180 early Italian paintings made by William Roscoe in the early part of the 19th century, and presented to the gallery in 1894. He also helped to found the Royal Institution (1817). An exhibition of modern art is held

annually. The museum possesses a fine collection of stuffed animals collected by the 13th Earl of Derby, and presented by his son; and the Mayer collection of [illegible] antiquities presented [illegible], F.S.A. The [illegible] University College and part of the Victoria University of Manchester, receiving its charter of incorporation in 1881, and being admitted to the University in 1884, but in 1903 it was converted into the University of L. by special Act of parliament, and was incorporated by Royal Charter. The government is constituted by the king as visitor, a chancellor, two pro-chancellors, a vice-chancellor, and a treasurer, and a court of 300 members representing various bodies. The chancellor is the Earl of Derby. Degrees are conferred in the following subjects: arts, science, engineering, law, medicine, and dental surgery. The medical school originally belonged to the Royal Infirmary, and includes a school of tropical medicine; there is also a veterinary school. It possesses a fine collection of volumes in the Tate Library, and also interesting museums. Following on the old Church schools, and an ancient grammar school, the first elementary schools were established in L. in 1826, Board schools appearing in 1870. Other schools founded by the city were the Liverpool Institute (1825), comprising a high school and [illegible] school, and the L. college became a [illegible] in 1905, as [illegible] High [illegible]ic Mersey are [illegible]nd the *Indefatigable* the training of boys as officers in the mercantile marine, the latter for the sons and orphans of sailors. L. is first mentioned historically in a deed executed by King John, then Earl of Mortain, in 1191. The name, no doubt, came from the early Norse inhabitants and was *Hlithar-pollr*, the pool of the slopes.' King John bought it and founded a borough in 1207, and throughout the 13th century we find L. used for shipping troops and stores to Ireland and Wales. Charters were granted to the city by most of the monarchs from Henry III. to William and Mary (1835), and in 1880 a royal charter converted the borough [illegible] city. L. remained the property [illegible] crown until 1628, when it was [illegible] with other manors by Charles [illegible] some London merchants, and they [illegible] turn sold it to Viscount Molyneux [illegible] Maryborough (for £450), in [illegible] family it remained until 1672, when it was acquired by the corporation. The Wars of the Roses considerably affected the prosperity of the city, and during the Civil War it was fortified and held by the parliament, being taken by Prince Rupert in 1644. From 1709 until 1807 L. was actively engaged in the slave-trade; privateering also flourished exceedingly. The area, exclusive of the water area, is 16,619 acres, and the population (1911) 746,566. *See* D. Droughton, *History of Liverpool*, 1810; J. A. Picton's *Memorials of Liverpool* (2 vols.), 1873; Ramsay Muir, *A History of Liverpool*, 1907.

Liverpool: 1. A tn., seaport, and cap. of Queen's co., Nova Scotia, Canada, on the R. Mersey, 65 m. S.W. of Halifax. It is the centre of a large fishing industry and shipbuilding trade. Some gold is mined in the neighbourhood. Pop. 3102. 2. A tn. in New South Wales, Australia, on George's R., 20 m. W. of Sydney. It is on the site of an early settlement in the midst of fine agricultural country, and manufs. paper. Pop. 4000.

Liver[illegible], [illegible]-Jenkinson, first Earl of [illegible] man, b[illegible] came M.P. for Cockermouth (1761), and Under-Secretary of State, and led the 'king's friends' party after Bates's retirement; he filled numerous high offices of state in the Grenville, Grafton, North, and Pitt ministries. He was created Baron Hawkesbury (1786), and Earl of Liverpool (1796). Of his numerous writings his *Treatise on the Coins of the Realm*, 1805 (reprinted 1880), is of value.

Liverpool, Robert Banks Jenkinson, second Earl of (1770-1828), an English statesman and prime minister, son of Charles Jenkinson, first earl. As Foreign Secretary in the Addington ministry he was responsible for the treaty of Amiens, 1801; he was Home Secretary under Pitt, 1804, leading the House of Lords as Lord Hawkesbury; he might have succeeded Pitt in the premiership, but retired till 1807, when he returned to the Home Office in the Portland ministry, and to the War and Colonial Office in the Perceval ministry, 1809-12, when he was made premier after Perceval's murder. His long period of office which he held till his death was marked by heavy taxation, repression [illegible] disorder, and the [illegible] he trial of Queen [illegible]cess of the foreign [illegible] Castlereagh and [illegible]age became extinct [illegible]vived in 1905 for a [illegible]hird earl through the female line, C. G. S. Foljambe, Liberal M.P., created Lord Hawkesbury, 1893.

Liverpool Daily Post and Mercury. *The Liverpool Daily Post* dates from 1855, being one of the papers that appeared as a result of the repeal of the stamp duty. In 1873 it was acquired by Mr. Holbrook Gaskell, who retained a large interest in it when it came under the management of Mr. A. G. Jeans in 1879. Sir Edward Russell also retaining his position of editor. The *Post* was always strongly Liberal in politics, and espoused the cause of the North in the American Civil War. It was one of the first newspapers to adopt the use of maps and diagrams, while its political and commercial news and dramatic and literary criticisms have always been noted features. In 1904 the *Post* absorbed a fellow Liberal journal, the *Liverpool Mercury*, founded by Egerton Smith in 1811, and published as a daily newspaper since 1858.

Liverpool Plains, a picturesque and pastoral dist. from 800 to 1000 ft. above sea-level in the N.E. of New South Wales. It is divided from the Warrego district by the Darling R. The chief tn. is Tamworth.

Liverpool Range, lies between the co. of Brisbane and the Liverpool Plain in New South Wales, Australia, and forms part of the Great Dividing Chain; highest point, Oxley's Peak, 4500 ft.

Liversedge, a par. and tn, in the West Riding of Yorkshire, England, 3 m. N.W. of Dewsbury. It has manufs. of cotton, woollen, and worsted goods, iron goods, machinery, and chemicals. Pop. (1911) 14,660.

Livery (from late Lat. *liberare*, in the special sense of distributing), originally meant the provision of food, clothing, etc., for the servants of a household. From this the term came to be applied to a special uniform worn by the servants of great households, and really includes the uniforms of naval, military, and civil officials as servants of the state. In the 15th century the partisans of the great barons adopted their badges as 'liveries' as a pledge to support them in return for their promise of 'maintenance'; this custom of 'livery and maintenance' was suppressed by Henry VII.

Livery, *see* COMPANIES, CITY, and LONDON.

Livery of Seisin, *see* FEOFFMENT.

Livia Drusilla (c. 55 B.C.-29 A.D.), a Roman empress. She was originally the wife of Tiberius Claudius Nero, by whom she had two sons, Drusus and Tiberius. In 38 B.C. Augustus compelled her husband to divorce her in order that he might marry her himself. She exercised great influence over Augustus, and was suspected of various crimes to secure the throne for her son Tiberius, whom she persuaded Augustus to adopt formally in 4 A.D. At the accession of Tiberius she acted as joint ruler with him, and after his retirement to Capreæ, continued to rule in Rome until her death. *See* Tacitus, *Annals*, i. v., and Baring Gould's *Tragedy of the Cæsars*, 1892.

Livingston, a seaport of Guatemala, Central America, at the mouth of the Rio Dulce, on the Gulf of Amatique. The chief exports are coffee, bananas, hides, mahogany, and rubber. Pop. 2000.

Livingston, a city and county-seat of Park co., Montana, U.S.A., on the Yellowstone R., 100 m. S.E. of Helena. It lies at an altitude of 4485 ft., and is within easy reach of the Yellowstone Park region. It has coal, coke, and gold mining industries, lumber mills, lime works, and machine shops. Pop. (1910) 5359.

Livingston, a famous American family founded by Robert L. (1654-1725) who was born at Ancrum, Scotland, and emigrating to America about 1673, received grants to 'Livingston Manor' on the Hudson. His grandson, *William Livingston* (1723-90), became a famous political leader on the side of the Dissenters. He served in the New York legislature (1759-60), but his influence was chiefly exerted in the columns of the *Independent Reflector* (1752-53), and the *New York Mercury* (1754-55). William's brother, *Peter van Brugh Livingston* (1710-92), was a prominent merchant and a political leader on the Whig side in New York, and another brother, *Philip Livingston* (1716-78), a signer of the Declaration of Independence, was also a leader of

of Independence and a political pamphleteer under the name of 'Decius.'

Livingston, Edward (1764-1836), an American jurist and statesman, born in Clermont, Columbia co., New York. He was Republican representative in Congress (1795-1801); United States District Attorney for New York State and Mayor of New York City in 1801. In 1803 he removed to Louisiana and built up a great law practice at New Orleans. In 1820 he became a member of the legislature of Louisiana, and drew up the 'Livingston Code' of criminal law. He was again a member of Congress from 1823-29, a senator in 1829-31, and Secretary of State under President Jackson, 1831-33. In 1833 he was appointed ambassador to France. *See* Livingston's *Criminal Jurisprudence*, 1873, and C. H. Hunt, *Life of E. Livingston*, 1864.

Livingston, Robert R. (1746-1813),

an American jurist and statesman, brother of Edward L. He was called to the bar in 1773, and was Recorder of New York from 1773-75. He was a member of Congress, and a member of the committee which drew up the 'Declaration of Independence,' as well as of the committee which drew up the first constitution of the state of New York, of which he was the first chancellor (1777-1801). At the same time he was Secretary for Foreign Affairs (1781-83), and president of the New York Convention (1788). From 1801-04 he was ambassador to France, and negotiated the purchase of Louisiana. He was an ardent agriculturist, introducing the use of gypsum as a fertiliser, and, in conjunction with Robert Fulton, did much to further the experiments with steam navigation. *See* Fred. de Peyster's *Biographical Sketch*, 1876.

Livingstone, a township of Northern Rhodesia, on the l. b. of the Zambesi R., about 3½ m. from the Victoria Falls. A reach of the river about 3 m. from L. forms one of the finest boating courses in the world, and a sculling competition was inaugurated here in 1910. L. is the administrative cap. of Northern Rhodesia, and has a white pop. of about 300.

Livingstone, a par. and vil. of Linlithgowshire, Scotland, 3 m. E. of Bathgate; has oil works. Pop (1911) 3714.

Livingstone, David (1813-73), a Scottish missionary and explorer in Africa, born at Blantyre, Lanarkshire, Scotland. At the age of ten he was working in a cotton factory at Blantyre, but this did not prevent him reading, and when he was twenty-three he entered on a course of study at Anderson's College, Glasgow, and later determined to become a missionary. With this aim in view he studied medicine, and in 1838 he offered himself to the London Missionary Society, attracted by their unsectarian character, and was accepted by them, and in Nov. 1840 he took his medical degree in the faculty of physicians and surgeons in Glasgow. His ambition had been to go to China, but as Great Britain was then at war with that country this was impossible, and the field selected for him was Africa. L. left England in Dec. 1840, arrived at Cape Town early in 1841, and went straight to Bechuanaland to the mission station established by Robert Moffat at Kuruman. He married, in 1844, Mary Moffat, daughter of the famous missionary. In 1849, in company with the great hunter Oswell and Mungo Murray, he discovered Lake Ngami. In the following year, with his wife and children, he made a journey to the Upper Zambesi, but owing to their illness he decided to send them home to England, and so they worked their way back to Cape Town, which they reached in April 1852.

Returning N. to Linyante, the capital of the Makololo, he determined to open up a route into the interior, and ascending the Liba he reached Lake Dilolo, Feb. 20, 1854; from there he went across the Kwango and arrived at Loanda on May 31, half dead from fever and starvation. Having sent home particulars of his wonderful journey, he returned to Linyante, arriving there in Sept. 1855. Realising that the W. route was of no use for his purpose he next set off to follow the Zambesi to its mouth, and a fortnight after leaving Linyante he discovered the famous Victoria Falls. Continuing his journey he reached Tete, March 1856, and then proceeded to Quilimane, where he arrived in May. In Dec. of the same year, he returned to England, having accomplished one of the most marvellous journeys on record, necessitating a reconstruction of the map of Africa, and making for himself a name something more than famous. While at home he quietly separated himself from the London Missionary Society, and in 1858 accepted an appointment as consul at Quilimane, and the command of an expedition to explore Eastern and Central Africa, in which he was accompanied by his brother, Charles L. and Dr. (afterwards Sir) John Kirk.

This second visit to Africa was fraught with trouble, and ended in the recall of the expedition and the loss of his appointment. The Universities Mission that he established broke down owing to the death of Bishop Mackenzie, and a greater blow was the death of his wife at Shupanga, April 1862. Geographically, however, he had done valuable work; he had explored the Shire R., discovered lakes Shirwa and Nyasa, laying the foundation for the Nyasaland Protectorate, and, above all, he had opened the eyes of the world to the horrors of the slave trade. He returned to England in July 1864, and after a year at home started on his last journey to Africa. He was appointed consul to Central Africa without a salary, the government contributing only £500 to the expedition, and the Geographical Society supplying the same amount. His object was to find the sources of the Nile, and from 1866 he was lost to the world for five years, while he wandered over vast tracts of country from Lake Nyasa to Lake Tanganyika, making valuable observations but losing his health and strength in

the attempt. It was during this period that he encountered the famous Arab slave dealer, Tippoo Tib, and it was due to the accounts he sent home of the horrors he witnessed that the trade was eventually suppressed. Worn out with all he had gone through, L. reached Ujiji in Oct. 1871, and it was here that H. M. Stanley found him, having been sent out to search for him by Mr. Gordon Bennett of the *New York Herald*. They remained together until March 1872, exploring the N. end of Tanganyika, then Stanley reluctantly left him, and L. proceeded on his way S. alone, but his health grew rapidly worse, and on May 1, 1873, his faithful followers found him dead. They were then at Chitambo's on the Lulimola in Ilala, and so well illustrates the deep that L. inspired in his follc his unfailing kindness and humour as that journey taken acrc carry his body to Zanz there it was conveyed to was buried in Westminster Abbey, April 1874.

The value of L.'s life and work are beyond estimation. As a missionary he was the greatest pioneer there has ever been, for he opened up the whole of Central Africa to the influences of Christianity, and he was the means of abolishing the slave trade; as an explorer he was unequalled, he travelled over one-third of Africa and altered the whole of African geography, the keenness of his observation, coupled with his scientific training, rendering his work of the utmost value, while his life and example have made him an inspiration for all time. He published an account of his first journey in a book entitled *Missionary Travels in South Africa* (1857), and his second journey in *The Zambesi and its Tributaries* (1865), and his *Last Journals* were edited by his friend, the Rev. Horace Waller (1874). *See* Stanley's *How I found Livingstone* and *Autobiography*, 1872; and W. G. Blaikie's *Life*, 1880.

Livingstonia Mission was established in 1875 by the Free Church of Scotland at Cape Clear, on the S. shore of Lake Nyasa. It was called after Dr. Livingstone, its object being to carry out his plans for the suppression of the Portuguese and Arab slave trade on the E. coast of Africa. In 1883 the mission moved to Bandawé, on the W. shore of the lake, on finding its former situation very unhealthy. *See* LAWS, ROBERT.

Livius, Andronicus, *see* ANDRONICUS LIVIUS.

Livno, a fortified tn. of Bosnia, 70 m. W. of Sarajevo. There is a trade in grain and live stock. Pop. 5300.

Livny, a tn. of Central Russia, in the *gov.* of Orel, 80 m. S.E. by E. of that city. It stands on the R. Sosna, and has a considerable trade in grain, cattle, leather, flax, etc. Pop. 20,000.

Livonia, Livland, Livlyandya, or Libmaa, a *gov.* of Russia, one of the three Baltic provinces. In the province are included the islands of Œsel, Mohn, and Paternoster, which with others form a group in the Gulf of Riga. Total area 18,160 sq. m. The country is flat and marshy, covered with dense forests. The chief lakes are the Peipus or Chudskoe, and Virzyärvi, and there are many rivers and [illegible] the Dwina with [illegible]

Rye, barley [illegible]

tures, including distilling, oil-pressing, sugar refining, and there are paper mills, woollen and cotton factories, tobacco, cork, soap, and petroleum works. L. was won from Sweden by Peter the Great, and it was formally ceded to Russia by the treaty of Nystad (1721). In 1835 the Russian code was introduced, and in 1867 the Russian language was recognised as the official language of the law courts. The capital is Riga, and other important towns are Dorpat and Wenden. The pop. of 1,443,700 is made up chiefly of Letts and Esthonians, with a fair sprinkling of Russians and Germans.

Livorno, a tn. of Italy, situated in the prov. of Novara, Piedmont, 17 m. W. by S. of Vercelli. Pop. 6200.

Livorno, *see* LEGHORN.

Livre, an old French coin and the unit of the French money system. Previous to 1667 two Ls. were coined, the L. tournois and the L. parisis. The first was divided into twenty sous, each of which was divided into four liards or twelve deniers, and this L. was general throughout France. The second was divided in the same way, but equal in value to twenty-five sous tournois; this was suppressed later on. The L. tournois remained the monetary unit until 1795.

Livy, or Titus Livius (59 B.C. - 17 A.D.), a Roman historian, born at Patavium (Padua). He was born of good family and was well educated, being a student of Greek literature, rhetoric, and philosophy. He sympathised with the Republican party during the Civil War, and later, when admitted to the court of Augustus, unlike his contemporaries Horace and

Virgil, he declined to flatter the emperor, and prophesied the fall of the Roman empire. However, he enjoyed the friendship of Augustus, and continued friendly relations with Claudius, but on the accession of Tiberius, in 14 A.D., he retired to his native place, where he died. L.'s history, *Ab Urbe condita Libri*, relates the history of Rome from its mythical foundation down to the death of Drusus in 9 B.C. It was divided into 142 books, of which only thirty-five remain, but epitomes of all except the 126th and 127th books have come down to us. L. is on the whole open-minded and sympathetic. His facts are not always trustworthy, for he was too credulous of the traditional accounts of previous authors, and did not avail himself as much as possible of authentic documents. The best editions of the text are those of Madvig and Ussing (1863-73), and Walker, with notes (1797-1813). The best English translation is that of Philemon Holland (1600). Consult Mackail's *Latin Literature* (1895).

Lixouri, or Lixourion, a seaport tn. of Greece in Cephalonia, on the E. coast on the Gulf of Argostoli. It is a depôt for wines and currants. Pop. 5000.

Lizard, a general name for a large variety of reptiles belonging to the order Lacertilia. The limbs may be well developed, as in the common L., or almost absent, as in the serpents. Ls. lack the separable jaws of the latter, and have neither the bony plate armour nor the socket-lodged teeth of the crocodile. Two Ls. only are found in Great Britain, though the sand L. (*Lacerta viridis*) is a native

on heaths and banks from early spring to autumn. It is about 6 in. long and is greenish brown on the upper part. The under parts are bright orange spotted with black in the male, and in the female plain pale greyish-green. The eggs hatch as soon as laid. The sand L. (*L. agilis*) occurs in the S. of England; it is usually a sandy brown with darker bands and black spots at the sides; an occasional greenish hue sometimes confuses it with the green L. It is 7 in. long. The eggs are laid in a hollow in the sand, covered, and left to incubate. These Ls. are insectivorous; many of the foreign Ls. devour birds, eggs, and mice, and even larger animals. Some are purely vegetarian. One of the most remarkable Ls. is the frilled L. of Australia. The frill is a crenated membrane arising from the hinder part of the head. In the same continent occurs the extraordinary horned moloch, or thorn devil. It is covered with rows of prickles; fortunately it is only 6 in. long. Tiny also is the dragon-like basilisk of Central America. The flying gecko of Java has developed powers of gliding, a membranous expansion of the skin from limb to limb acting as a parachute.

Lizard, Battle off the, took place in the first Dutch War off the Lizard point on June 12, 1652, when Sir George Ayscue succeeded in capturing six vessels out of a fleet of forty Dutch merchantmen, which he overtook on their voyage to the East Indies.

Lizard Head, or Lizard Point, the most southerly point of Great Britain, situated in Cornwall, England, in lat. 49° 57′ 30″ N. and long. 5° 12′ W. The principal village is Lizard Town, 10½ m. from Helston. There are several small bays, the most notable being Kynance Cove. The Lion's Den, another interesting feature, is a chasm formed in 1847 by the collapse of a cave. A dangerous reef, known as the Stags, stretches S. off the Point. There are two lighthouses.

Ljusdal, a com. of Sweden, in the prov. of Gefleborg, on the R. Ljusne, 55 m. S.W. of Sundsvall. Pop. 10,299.

Ljusne, a riv. of Sweden in the provinces of Ostersund and Gefleborg. It flows eastward for 240 m., and enters the Gulf of Bothnia 6 m. S. of Söderhamn.

Llama, a member of the camel family, native of Peru, is, to a diminishing extent, used as a beast of burden. It is white and sometimes spotted with brown or black. The fleece is long and silky and of considerable value. The flesh is extensively eaten. The L. is much smaller than the camel and has no dorsal hump.

Llanberis, a par. and tn. of Carnarvonshire, Wales, 8½ m. S.E. of Carnarvon. The scenery is wild and mountainous; the old village is at the foot of Llanberis Pass. There are two lakes, Llyn Peris and Llyn Padarn, and on the border of the former is Dolbadarn Castle. Slate quarrying is extensively carried on. Pop. (1911) 3000.

Llandaff, a city of Glamorgan, Wales, 2 m. N.W. of Cardiff. The see is regarded as the oldest in Great Britain; its cathedral was restored in 1844-69. Pop. 6000.

Llandaff, Henry Matthews, first Viscount (1826-1913), an English jurist and statesman, born in Ceylon. He was admitted as a barrister in 1850, and became a Q.C. and a bencher of Lincoln's Inn in 1868. He sat on the Conservative side of parliament, representing Dungarvan (1868-74) and E. Birmingham (1885-92), being Home Secretary under Lord Salis-

bury from 1886-92. He was created a viscount in 1895.

Llanddeinolen, a par. of Carnarvonshire, Wales, 4 m. N.E. of Carnarvon. It contains prehistoric antiquities, and there are slate quarries, writing-slate works, and a woollen factory. Pop. 6000.

Llandebie, a par. and vil. of Carmarthenshire, Wales, situated on the Loughor, 5 m. S. of Llandilo. The district is mountainous and coal and limestone are abundant. Pop. (1911) 6400.

Llandilo, or Llandeilo Fawr, an urban dist. and tn. of Carmarthenshire, Wales, situated on a height above the Towy, which is here crossed by a fine bridge. There are breweries, timber mills, hosiery factories, and a trade in corn. Pop. (1911) 1932.

Llandovery, a municipal bor. and tn. of Carmarthenshire, Wales, on the Towy, 18 m. N.W. of Brecon. Agriculture and brewing are the industries. Pop. (1911) 1993.

Llandrindod Wells, an urban dist. and market town of Radnorshire, Wales, situated on the Ithon, 6 m. N.E. of Builth. It is a popular health resort, possessing medicinal springs. There are numerous Roman remains. Pop. (1911) 2779.

Llandudno, a popular seaside resort of N. Wales at the mouth of the Conway on the Irish Sea, 37¼ m. W. of Liverpool. A very fine marine 'drive' encircles the Great Orme, and there are noted caves under the Little Orme, also Druidical remains. Pop. (1911) 10,469.

Llanelly, a seaport, parl. bor., and market tn. of Carmarthenshire, Wales, on Burry Inlet, 10 m. N.W. of Swansea. Coal is extensively shipped from the docks, and there are large copper smelting works, potteries, rope works, saw mills, and manufs. of bricks, tinplate, and chemicals. Pop. (1911) 32,077.

Llanes, a seaport of Oviedo, Spain, on the Bay of Biscay. The principal trade is in agricultural and dairy produce, fish, and timber. Pop. 20,000.

Llanfairfechan, a small tn. of Carnarvonshire, Wales, 6 m. W.S.W. of Conway. It is a favourite summer resort, possessing a fine sandy beach and facilities for sea-bathing. Pop. (1911) 2973.

Llanfairpwllgwyngyll, a par. and tn. of Anglesey, Wales, on the Menai Strait, 4 m. W. of Bangor. Pop. (1911) 1000.

Llangollen, a par. and tn. of Denbighshire, Wales, on the Dee, 9 m. S.W. of Wrexham. It is a popular summer resort. L. is noted for its linen and woollen manufs., and there are slate quarries, coal mines, etc. The Vale of L. is noted for its beauty. Pop. (1911) 3250.

Llanidloes, a municipal and parl. bor. and market tn. of Montgomeryshire, Wales, on the Severn, 11 m. W.S.W. of Newtown. The Welsh flannel manuf. is largely carried on here, and lead and zinc are obtained in the vicinity. Plinlimmon is partly in the parish, and tourists wishing to ascend it usually start from the town. Pop. (1911) 2594.

Llano Estacado (from the Sp. *Llano*, a flat field), an elevated plain in the U.S.A., partly in the S.E. of New Mexico and the N.W. of Texas. It slopes generally to the N., and the stake-like holes of the yucca tree, which grows abundantly on the plain, have given it its name.

Llanos, the name given to vast plains in the N. of S. America. They are generally level, and extend from the Orinoco delta inland to the Yapura, a feeder of the Amazon. The estimated area is 300,000 sq. m., and the greater portions are sandy and lacking in vegetation, except near the rivers, when in the rainy season great stretches are 12 and 15 ft. under water. Forests cover a small part, and in the grassy portions herds of cattle are reared.

Llanquihue, a prov. of Southern Chile, between the Andes and the sea. Cap., Puerto Montt, on the Bay of Reloncavi. The northern part of the province consists of a broad plain, but in the S. it is intersected by narrow fjords and has fine rugged scenery. The most important industry is grazing, and it produces wheat, barley, and timber. It covers an area of 35,390 sq. m. Pop. 105,000.

Llanquihue Lake, in the prov. of Llanquihue, Southern Chile, 14 m. N. of Puerto Montt. It is the largest fresh-water lake in Chile, and covers an area of about 230 sq. m. It has an altitude of 170 ft., and is deep and clear. The volcanoes of Osorno and Calbuco rise above it. The lake is drained S.W. by the R. Maullin into the Pacific.

Llanthony, ruins of a Cistercian abbey founded in 1108 for Austin canons, in Monmouthshire, 9 m. N. of Abergavenny. The architecture is in the Transition Norman style, and the church and chapter-house form a fine ruin. Walter Savage Landor, after his marriage, lived in the Prior's Lodge (now converted into an inn), and during his sojourn there made many attempts to improve the barrenness of the soil.

Llanwrst, a tn. in Denbighshire, Wales, 12 m. S. of Conway, on the Conway, spanned by a handsome bridge. It has tanning and malting industries. Pop. (1911) 2519.

Llerena, a tn. of Badajoz, Spain, 62 m. S.E. of Badajoz. It possesses a copy of the tower of the Giralda of Seville. Near by the French cavalry were routed by the British on April 11, 1812. Pop. 7000.

Llewelyn the Great (*d.* 1240), Prince of North Wales, born after his father's expulsion, recovered the paternal inheritance in 1194, while still quite a young man. After his accession he married the illegitimate daughter of King John, but continual quarrels arose between him and his father-in-law, who reduced L. to submission in 1211. In the following year, the latter recovered all his losses in North Wales, and in 1215 took Shrewsbury. Throughout his reign he was continually at war with the Marchers of South Wales, and was frequently attacked by English armies at the beginning of Henry III.'s reign, not acknowledging that king's suzerainty till 1230. In the following year he abdicated in favour of his son David, and retired to a Cistercian monastery.

Llorente, Jean Antonio (1756-1823), a Spanish historian, born at Rincon del Soto in Aragon. On taking holy orders received rapid promotion, being appointed vicar-general of Calahorra (1782), commissary of the Inquisition at Logroño (1785), canon of Calahorra, and general secretary to the Inquisition at Madrid (1789). In 1806 he was appointed canon of Toledo, but his advanced views made him unpopular, and, on the defeat of King Joseph, retired to France, where he completed his *Historia critica de la inquisicion de España* (1817-18), which was immediately translated into many European languages and evoked much criticism. On the publication of his *Portraits Politiques des Papes* (1822) he was requested to leave France, and died soon after on reaching Madrid. His other works include, *Memorias para la historia de la revolucion española*, 1814-16, and *Notica biografica*, 1818.

Lloyd, Charles (1775-1839), a poet, published at the age of twenty his first volume of poetry, which attracted the attention of Samuel Taylor Coleridge, with whom L. subsequently lived (1796-97). Through Coleridge he became acquainted with Lamb, with whom he was soon on intimate terms. In 1798 appeared *Blank Verse, by Charles Lloyd and Charles Lamb.* He published several volumes of verse, and his best work is probably to be found in *Desultory Thoughts in London* (1821). Shortly after, he became insane.

Lloyd, Edward (*b.* 1845), an English tenor, born in London, the son of Richard L., vicar choralist at Westminster Abbey. He was trained in the abbey choir (1852-60), and later became solo tenor at the Chapel Royal. In 1867 he appeared at concerts, and in 1871 took part in the Gloucester Musical Festival. Since 1888 he has been the principal tenor at the Handel Festivals, and has toured in the United States (1888, 1890, and 1892). He formally retired in 1900.

Lloyd George, David (*b.* 1863), M.P. for Carnarvon dist. since 1890, Privy Councillor, 1905, Chancellor of the Exchequer since 1908, D.C.L. (hon.), Oxford. He was born at Manchester, son of William George, Master of Hope Street Unitarian Schools, Liverpool; educated at Llanystymdwy Church School and privately. A solicitor by profession, he is politically a militant Radical Nonconformist. He opposed the Conservative government's Agricultural Land Rating Act, Voluntary Schools Act, and Tithe Rent Charge Act; was suspended over the Rating Bill for refusing to leave the House when a division was called. He criticised the Education Bill (1902), and opposed the S. African War, a political visit to Birmingham at the time leading to serious riot. He headed the Welsh educational agitation. Under Campbell-Bannerman he became President of the Board of Trade, and later Chancellor, his budgets rousing much controversy. His latest work is the Insurance Act, 1911.

Lloyd's, is an association of underwriters, shipowners and marine insurance brokers. The name is derived from the coffee-house of Edward Lloyd (17th century) in Tower Street, where merchants met together for social and business purposes. In 1692 Lloyd moved into larger quarters at the corner of Lombard Street and Abchurch Lane, where his house became the great centre of business and exchange in all matters concerned with marine commerce. In 1696 this enterprising proprietor founded *Lloyd's News*, to supply marine intelligence, which was renewed in 1726 as *Lloyd's Post.* In 1774 L.'s moved to the former premises of the East India Company in the Royal Exchange, which remain their present head-quarters. About this time the various merchants, brokers, and underwriters appear to have united for their common interests. In 1811 the [illegible] by [illegible] irs, [illegible] incorporated by parliament. [illegible] besides insuring property afloat, is the great centre of supply and distribution of shipping intelligence. [illegible] vidual underwriters have [illegible]

independence in all business transactions, but are required to deposit securitities from £5000 to £10,000. A committee appointed by the members, manages the affairs of the institution. Various journals on marine matters are issued by the institution, such as *Lloyd's Weekly Shipping Index*, and *Lloyd's Confidential Index*. Consult Martin's *History of Lloyd's*, 1876.

Lloyd's Bonds, were devised by an English barrister, John Horatio Lloyd, to enable a company to borrow in excess of its statutory powers. They are issued by railway companies, under their seal, as an obligation for work done or materials supplied by contractors, and as a promise to pay the due amount with interest at a future date. Such bonds should not be issued without consent of the shareholders of the company, and are not valid as an obligation to pay back a mere loan of money.

Lloyd's Register of British and Foreign Shipping, a society formed for the classification of vessels according to their strength and their capacity for carrying cargoes. Its affairs are managed by a committee of fifty members, composed of merchants, shipowners, and underwriters, who are elected at the chief ports of the country. Under the committee is a staff of surveyors, who supervise and report on the construction of vessels and engines, and of inspectors who examine the boilers, chains, anchors, etc., of a vessel after construction. Wood vessels are assigned the characters A1, Æ1, etc., while iron and steel vessels are assigned characters 80 A1 up to 100 A1, the highest class. Under the authority of parliament, the society fixes maximum load-lines to merchant ships, and tests the anchors and chains at all the public proving houses. A register containing particulars with regard to the classification of British and foreign sea-going vessels is issued annually. Consult *Annals of Lloyd's Register*, 1884.

Llywarch Hên Poems, *see* WALES—*Literature*.

Lô, St., a tn. of France, cap. of the dept. of Manche, on the Vire, 47 m. S.E. of Cherbourg. There is an interesting church of Notre Dame, which was formerly a cathedral. It dates from the 14th century, and was restored in the 17th century. Pop. 9000.

Loach, a small fish peculiar to the Old World. There are three European genera, and two are represented in Britain, each by a single species. The common or stone L. (*Nemachilus barbatulus*) frequents clear shallow streams, living entirely on animal diet. Its length never exceeds 5 in., but the flesh is very delicate. It has six sensitive barbules hanging from the upper lip. The spined L. or groundling (*Cobitus tænia*) is rare in Britain. Its main distinction is a small bifid spine below each eye, which is erectile at will. The giant L. (*Misgurnus fossilis*) which occurs on the Continent of Europe measures up to 10 in. in length.

Load Line, a line 18 in. long, drawn through a circular disc, 12 in. in diameter, painted on a vessel to indicate the depth to which a vessel is allowed to sink in salt water, according to law, after being loaded. It was enacted, through the influence of Mr. Plimsoll, that every British ship must be so marked, amidships, by the Merchant Shipping Act of 1876. Any owner, who fails to comply with this law, is liable to a penalty not exceeding £100 for each offence. In 1890 the law was amended so that the fixing of the height of the L. L. should be under the control of the Board of Trade. In the Merchant Shipping Act of 1906, the L. L. was raised as a concession to the shipowners. Since that Act came into operation the death-rate among British seamen went up so considerably that in April 1913 parliament decided to appoint a committee to inquire into the matter. *See* PLIMSOLL, SAMUEL; and MERCHANT SHIPPING.

Loadstone, *see* MAGNETITE.

Loam, a soil mixture of sand and clay; the preponderance of one or the other makes the L. light or heavy in texture. Heavy Ls. need to be well manured with stable manure to improve the texture, and lime is necessary at intervals to make the fertilising elements available for plants. Light Ls. are easily worked and need no draining, the manuring is done especially with the object of keeping them moist and cool. L. forms the principal part of the compost used for pot plants, the best is an equal mixture of sand and clay with an abundance of fibre, and is usually the top 3 or 4 in. from old pasture land. All loamy soils are well suited for farming and general gardening, those with sand preponderating are best for early crops. Clay Ls. are better for late crops.

Loan: 1. *Loan of things.*—If A delivers goods to B to be taken care of gratuitously, B, the depositary, is not entitled to make use of the goods, unless no harm would come to them by his so doing. Hence goods which would be consumed by use cannot be made use of. It is said that if A 'deposits' his horse with B, B not only may but ought to give it proper exercise. But in all such cases the

mode of custody depends on the terms of the arrangement, and, in general, a deposit is not a L. at all. The true bailment for L. is called after the civil law, a 'commodation,' or the L. of a thing to be returned just as it is. If A lends B his bicycle to ride home on, B, of course, is not entitled to bring back a different bicycle. For the borrower must strictly follow the terms of the L., and an arrangement by which he could return similar things would apply only to such things as consumable articles, *e.g.* a packet of tea, postage stamps, and then the arrangement should, properly, be what is called *mutuum*. The borrower must return the thing in as good order as he had it, reasonable wear and tear excepted, but is not responsible for loss by accident or theft due to no carelessness on his part. In a *mutuum*, on the other hand, the borrower must, in all events, return an equivalent of the thing borrowed. The borrower has no lien (*q.v.*) on the thing for antecedent debts due to him, nor can he retain the thing against expenses of keeping it; but he is entitled to damages if injured by defects in the thing which the lender was aware of but did not disclose. 2. *Loan of money* may be either on personal security only, or as by note of hand, or it may be secured by a charge (*see* EQUITABLE CHARGE), or mortgage of real or personal property. If nothing is said in a contract of L. about interest, the lender would ordinarily be entitled to be paid interest at the current or market rate. *See also* MONEYLENDING.

Loanda, São Paulo de, a seaport on the W. coast of Africa, cap. of the Portuguese colony of Angola, situated between the mouths of the Bango and Kwanga, and protected from the sea by a narrow sandy island, 18 m. long. It thus affords good harbour to vessels and has a floating dock. It has a meteorological observatory, well-built government offices, gasworks, tramway lines, etc. The chief trade is in tobacco, india-rubber, coffee, and cocoanuts. Pop. 23,000.

Loango: 1. A dist. of W. Africa, extending along the coast of the Atlantic, northwards from the Congo. It was divided between Belgian Congo, Portugal, and France by the Berlin Conference of 1885. The exports consist of gums, wax, palm-oil, copper, ivory, etc. 2. An important port of French Equatorial Africa on the coast, 100 m. N. of the mouth of the Congo.

Loanhead, a tn. in Midlothian, Scotland, 6 m. S.S.E. of Edinburgh. There are paper mills and coal mines. Pop. (1911) 3483.

Loans, Public. The Public Works Loan Commissioners are a body set up by the Public Works Loans Act, 1875, for the purpose of making advances to local authorities and others out of moneys placed at their disposal by the state, from time to time, for the execution of works of public benefit. The increase of their powers is to a considerable extent subject to the control of the Treasury. They are authorised to lend on the security of the rates at a rate of interest, which is fixed by the Treasury, at various periods (*e.g.* under the Treasury Minute of March 21, 1904, the rate was fixed at 3¼ per cent.), and they are required to make a report of their transactions during each financial year to the Treasury, which report is presented to parliament. The purposes for which they are empowered to lend money are to be found in the first schedule to the Act of 1875, and in a number of Acts passed since that date relating to different matters of local government, *e.g.* under the Housing Act of 1890, the commissioners may lend to a public utility society, railway company, or dock or harbour company for the purpose of facilitating the construction or improvement of dwellings for the working-classes. Under the Baths and Washhouses Act, 1878, a district council can borrow money for establishing a public bath or washhouse. Money can only be borrowed for 'permanent works.' Usually the Local Government Board are the authority to determine the time in which a loan shall be repaid. As a rule the period must not exceed fifty years, but it may be more in certain cases, *e.g.* under the Housing Act, 1909, a loan may be outstanding for eighty years. Subject to the agreement under which the advance was made, a loan must be repaid either by equal annual instalments with interest, or by means of a sinking fund, which, with the accumulations of compound interest from the investment of such fund in government securities, will suffice to pay off the loan within the sanctioned period.

Loan Societies are societies or associations established under the Loan Societies Act, 1840, for the purpose of advancing money on loan to persons of the working class, to be repaid with interest by instalments. L. S. will be deprived of the benefit of the Act altogether, and will therefore be illegal unless they submit their rules for approval by the registrar of friendly societies, and send a copy of the rules certified by the registrar to be recorded with the clerk of the peace, or clerk to the county council.

Notwithstanding such approval it seems that a magistrate still has power to make inquiries in order to satisfy himself that any particular society is not a fraud on the statute. The rules can only be altered with the approval of the registrar. No greater sum than £15 can be lent to any one person. No second or other loan can be made to the same person until the antecedent loan has been repaid. No note or security given to a L. S. is either liable to stamp duty or capable of being transferred. By the combined effect of the Act of 1840 and the Loan Societies Act, 1863, loans are recoverable by demand in writing left with or sent by post to the borrower by the treasurer of the society; if the borrower neglects to comply with the demand the treasurer may prefer a *complaint* to a justice of the peace, who may summon the borrower and his sureties (if any), and after hearing the case, order such sum to be paid to the treasurer as appears to be due, together with such a sum for costs not exceeding five shillings as seems reasonable.

Loasa, a genus characterised by the stinging hairs on the leaves and stems which make cultivation risky. Some species are short and bushy in habit, while others are climbers and trailers. The flowers are white, yellow, and red, and are usually very showy. Natives of Chile and Peru, the annual and biennial species can be grown on a sunny border out of doors. There are a few evergreen perennials in the genus, but these require greenhouse treatment. The order Loasaceæ contains less than a hundred species which are confined to the American continent.

Lobachevsky, Nicholas Ivanovitch (1793-1856), a Russian mathematician, born at Nijni-Novgorod. In 1807 he became a student at the University of Kazan, and seven years later became assistant professor, and extraordinary professor in 1816. In 1823 he was elected to the chair as professor of mathematics, retaining it till 1846. L. was a pioneer of the modern geometries of the non-Euclidian theory. Amongst his principal works are: *Principles of Geometry; Imaginary Geometry; Pangéométrie*, etc. *See* F. Engel, *N. I. Lobatchewsky*, 1899.

Lobanov, Rostovski Alexis Borissovitch, Prince (1825-96), a Russian statesman. In 1844 he entered the economic dept. of the Ministry of Foreign Affairs, and six years later became attaché of the Russian embassy at Berlin. After the Crimean War, from 1859-63, he was minister plenipotentiary at Constantinople. He represented the Russian government at Constantinople (1878), London (1879), and Vienna (1882-95). He then became Minister of Foreign Affairs, but died suddenly the next year.

Lobau: 1. A tn. of Saxony, Germany, on the Schwarzwasser, 12 m. S.E. of Bautzen. There is a noted spa visited yearly by great numbers of people. The industries include pianoforte factories, sugar factories, spinning, weaving, bleaching, dyeing, etc., and a trade in linen, yarn, and hosiery. Pop. 11,256. 2. An island of Lower Austria, 7½ m. below Vienna, in the Danube. It is 4 m. in length. The French were entrenched here in 1809 for six weeks.

Lobberich, a tn. of Prussia in the Rhine Province, 8 m. W.S.W. of Kempen. Pop. 7816.

L'Obel, Matthias de (c. 1538-1616), a French botanist, born at Lille, who gives his name to the lobelia plant. He journeyed in various parts of Europe, gaining a wide knowledge of plants on his wanderings. James I. appointed him to be his botanist, and Lord Zouche placed him in charge of his garden at Hackney, N. London. He is the author of several Latin works on plants.

Lobelia, a large and varied genus of annuals and perennials, some hardy, some tender, belonging to the order Campanulaceæ. *L. cardinalis*, or cardinal flower, is a tall perennial, nearly hardy, bearing flowers of a rich 'cardinal' crimson during the late summer and early autumn. *L. erinus*, a S. African species, has given rise to a large number of dwarf bedding varieties of various shades of blue, white, and maroon. *L. fulgens*, like *L. cardinalis*, is a N. American species, growing from 1 to 3 ft. tall, flowering in May. Its varieties include white, rose, violet, and blue colours. *L. syphilitica* is hardy, and has given rise to numerous blue and white hybrids. The dwarf Ls. do best in a light soil, but the taller species need abundant plant food and frequent watering.

Lobengula (1833-94), became king of the Matabele in 1870 on the death of his father, and made Buluwayo his capital. In 1888 he signed a treaty with England admitting her suzerainty, but on the British S. Africa Company receiving permission to settle in Mashonaland in 1892, L. made repeated raids against the English, and in 1893 his capital was taken, and he was forced to fly, dying not long afterwards.

Lob Nor, or Lop Nor, a lake of Central Asia in the desert of Gobi, Chinese Turkestan, divided into two sections, Kara-buran and Chon-kul. It formerly constituted the final re-

ceptacle of the waters of the Tarim in Eastern Turkestan, but the investigations of Przhevalski in 1877 and 1882 and of Sven Hedin prove the boundaries to be shifting. The lake is now only a few feet deep, and is rapidly becoming dried up. In 1885 Przhevalski found about 400 Turks and Mongols settled on its confines. The altitude of the lake is 2600 ft., and at the W. end of the former lake there is a village of Lob.

Lobo, Jeronimo (1593–1678), a Jesuit missionary, born at Lisbon. In 1621 he went to India, but in 1625 left for Abyssinia, where he began his missionary labours, being superintendent of missions in Tigre for nearly ten years. L'Abbe Legrand published a French translation of L.'s Portuguese MS. account of his travels in Abyssinia, translated again into English in an abridged form by Dr. Johnson.

Lobos, or Seal Islands, two small groups of rocky islands in the Pacific Ocean, about 12 m. off the coast of Peru. Lobos de Tierra is the largest and most northerly, being about 5 m. long and 2 m. broad. The islands have large guano deposits.

Lobositz, a tn. in Bohemia, Austria, on the Elbe, 40 m. N.W. of Prague. It is the site of the defeat of the Austrians by Frederick the Great in 1756. Pop. 5076.

Lobsters are acquatic crustaceans of the macrourous or long-tailed type of the order Decapoda. Their long tail distinguishes them clearly from crabs, in which the segments of the tail are short and flattened and expanded laterally. The common L. (*Homarus vulgaris*) frequents rocky coasts, varying slightly according to locality. The general colour is a dull pale reddish-yellow, spotted with bluish-black. The female carries the eggs attached to the false abdominal swimming feet, until they hatch into shrimp-like larvæ, which lead an active existence in the open water, and are much preyed upon. When mature the average weight of the common L. is from 8 to 12 lbs. Enormous catches of Ls. are made annually from March to August, but the supply is augmented by imports of the large American L. and of the elegant Norway L. The common spiny L. is of very ancient origin, and is found on the W. coast of England, often being taken in crab pots. The shell or carapace is thickly covered with spines of various sizes and a large spine occurs over each eye. It has the power of producing a loud noise by rubbing the antennæ against the carapace. The size of Ls. is regulated by restrictions as to a minimum at Billingsgate and other fish markets, but in spite of the prolificacy of the females, the numbers are believed to be decreasing.

Lob-worm, *see* LUG-WORM.

Local Debts, *see* PUBLIC DEBT.

Local Government. In this article L. G. is used as connoting decentralised administrative and judicial functions. As opposed to the central government of a 'unitary' state, *i.e.* a state in which the sovereignty or supreme governmental powers are vested in a central group or organ exercising a general or supervisory control over all the members of the polity, L. G. denotes the administration of those matters of secondary importance which concern rather the welfare of the inhabitants of a locality than the nation as a whole. Whatever the constitution of a state, a great amount of work must of necessity be delegated to local governing bodies, and as Dr. Odgers points out in his *Local Government*, 'all constitutional writers regard L. G. as the chief corner-stone of political freedom,' though he submits that it is not easy to say whether free local institutions arise out of a constitutional central government carried on by a free people, or whether, conversely, the existence of such institutions instils a love of freedom that necessitates the repressive hand of a strong central organ. Against the latter assumption may be cited the Hindu village communities (*see* LAND), which, if freedom be taken as synonymous with representative institutions (*see* ELECTORATE, CONSTITUTION), have ever revealed to the European mind a characteristically Oriental immobility of ideas. On the whole it seems more historically accurate to say that in England L. G. really in its essentials preceded central government, if by the latter we mean anything more than a warrior king. There early existed in England the feudal hierarchy of the shire, hundred, and township, each with its separate moot and elective governing body. The conqueror did but make use of this existing machinery even though by concentrating all the land in himself and a few great barons and earls, he welded the nation into a compact kingdom.

But whatever its genesis, L. G., as Professor Sedgwick says, is important, if not indispensable, to the effective working of representative institutions. For over-centralisation tends to induce a slackness of control of the citizens generally over the government, while, in the language of political economy, the absence of a proper division of labour impairs the efficiency of the central body itself. There is no danger of a want of har-

mony between the central and local governing bodies if the latter are a genuine microcosm of the former, carrying out in detail the principles formulated by the great departments of state. If this relationship be strictly preserved, there will
dence that *uniformity of*
essential to what should be an
whole. In this process of
the labour or functions between central and local executives, it is clear that only a limited power of
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bias, besides leading to the anomaly of different regulations in different districts, the result of which would be th
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to be the highest.

According to Redlich, the present structure and functions of local administration are a natural growth from those 18th-century institutions which Gneist called 'self-government' and considered to be the high-water mark of English constitutional *progress*. But it is clear that English *L. G. owes but little to the pre-Reform* Bill days of rotten boroughs and close *municipal corporations*. Again, the influence of social democratic ideas upon government generally, which is one source of L. G., is not to be traced to any one period of the assertion of popular liberties. English L. G. of the present day is not markedly different in principle to what it was in the days when the freeholders assembled in the shire moot, assessed themselves to imperial burdens, and declared what the local usages or laws were, when the hundred (*q.v.*) was answerable for the good order of its inhabitants, and when the freemen of the town moot made their bylaws and the tithing-man kept the peace. The very form of the various local governing bodies of to-day are to be detected in their Sa

the town moot, the hundred moot and the county sessions present striking features of similarity. The democratisation of English L. G., far from being the product of any one point of time or set of circumstances, is a slowly matured evolution of ideas inherent in the English constitution itself and the traditionally free and open character of the Saxon race—ideas and characteristics which throughout history have constantly asserted themselves during periods of an oligarchic or monarchic tyranny. The later social democratic sentiments of the continent have no doubt enlarged the somewhat stiff
views of English
but those
irectly upon
the central
government has embodied some fresh principle in an Act of Parliament. But the functions *per se* of local governing bodies vary but little from those of ancient times. Convenience and economy make it essential that local bodies shall
certain functions relating to
lth, highways, relief of
and preservation of
order, and these functions have not been formally delegated by any central body; they have always been
implicit grounds of
formative ideas have
sphere of what once comprised 'good order and governance,' but they have not altered the essential functions of the local council and magistracy. *See* JUSTICES OF THE PEACE, COUNTY SESSIONS, COUNTY COUNCIL, DECENTRALISATION.

Perhaps the most remarkable feature of modern L. G. is the rapid *advance in municipal trading*. England is in advance of most other *countries in this respect, and it is be*coming axiomatic to say that no one yet knows either how far such policy will be carried in the future, and to what extent it may be said to be in accordance with sound canons of political economy. It is so directly antithetical to the doctrine of *laissez-faire*, and such a complete subversion of the time-worn notion that state functions end with the conservation of internal order and the defence against aggression from without, that many stigmatise it with the name of municipal socialism, and look with
on the
rapid increase of
debt. In 1868 the local expenditure of the United Kingdom was
at the end of the cen-
rown to £152,000,000;
both the population
value of property have increased, the increase in rates and taxation has been relatively far greater. The increase within the last thirty years is unquestionably due partly to the progress in municipal trading enterprise, a feature of public life which is regarded by such writers as Lord Avebury, and no doubt with strict historical accuracy, as entirely opposed to the liberal teaching of Cobden, Mill, and Bright. It is urged

that municipal trading is undesi
not only on account of the inci
increase in municipal debt, bu
cause pre-existing functions of
cipalities were enough to absorb all their energies, and to add to those functions is to check progress and discovery. Experience, however, shows that municipalities are not embarrassed by the added duties involved in
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in brickmaking and tailoring. Moreover, when all due allowance has been made for political rhetoric, there is but little doubt that the London tramways, *e.g.* whether worked by the council or leased to companies for working, are worked at a profit, albeit a small one. It is also objected that municipal trading will involve municipalities in labour disputes. In this connection it is to be observed that the Local Government Board recently issued a circular to local authorities recommending 'fair wages' clauses in civic contracts, and in practice this has been interpreted to mean 'trade union' rates. Major Darwin (*Municipal Trade*) urges as a
the encroachments of
on the sphere hitherto
priate to private enter
ger of corruption. Prosecutions of recent years seem in a manner to bear out this fear; but those prosecutions appear to have checked any recurrence of the evil, and in any event the vigilance of those who su
rival candidates is too keen to
of any great latitude. Judged b
light of the evolution of m
Liberalism (*q.v.*), the whole question is really not so much a matter of profit and loss, or the effect of municipal or private enterprise, as one of opinion whether or no the interests of civilisation are better served by the state becoming its own shopkeeper and factory owner instead of allc
the private individual or com
to exploit other individuals or
panies for gain. Thus stated, it becomes clear that the issue is between every conceivable form of individualism, absolute or modified, and that co-operative mode of adjusting human relations which for want of a better name is called Socialism (*q.v.*).

LOCAL GOVERNMENT IN THE UNITED KINGDOM.—For purposes of L. G. the whole kingdom is divided into counties, boroughs, and parishes, and for poor law purposes into unions of parishes. The counties correspond with their geographical areas for the most part, though there is occasional overlapping; but the districts under
of urban and rural
ill-defined, and
which topographi-
one county are for purposes of local administration included in the jurisdiction of a local authority situate in some other county, *e.g.* Holywell is in Bedfordshire, but an order of the Local Government Board includes it in the rural district of Hitchin, Herts. The parish is the unit of these local governmental areas, and, as defined by the Interpretation Act, 1889, is a place for which separate overseers can be appointed or a separate poor rate levied. The ancient parochial authority, the vestry, now exists solely for ecclesiastical purposes, its public functions having been transferred by section 19 of the Local Government Act, 1894, to the parish council and
n 7 gives
power to
Watching
Act, 1833; the Baths and Washhouses Acts, 1846-82; the Burial Acts, 1852-85; the Public Improvements Act, 1860; and the Public Libraries Act, 1892.

The Local Government Act, 1894, which is mainly concerned with the
whom the law is to be
substitutes 'rural dis-
' for the former 'rural
thorities'; transforms 'urban sanitary authorities' (other than municipal borough councils) into 'urban district councils,' while investing the new bodies with fresh powers, *e.g.* the powers of justices as
dealers in
the execu-
infant life
to the district council; it abolishes or provides for the subsequent abolition of the independent highway authorities (old highway boards and rural sanitary authority) in rural districts, transferring their functions to the rural district councils; reforms boards of
and
the
's to
them the functions of churchwardens and overseers as to acquisition of land under the Allotments Acts; and generally endeavours so to adjust areas of L. G. as to minimise the inconvenience of overlapping boundaries by giving the county councils power, whether proposals for alterations have been made under the Local Government Act, 1888, or not, to alter boundaries of parishes situate partly within and partly without a rural district or a rural district partly within and partly without an administrative county.

Parishes are divided by the Local

Government Act, 1894, into (1) urban parishes, and (2) rural parishes. An urban parish is one situate within a borough or urban district, and all parishes which are not urban are rural. Rural parishes include those with parish councils and those without. Every parish in a rural sanitary district is a rural parish, and is coextensive with such district; and unless the county council direct otherwise a separate election of a parish council for such a parish shall not be held until the district is united to some other district or districts; but the rural district council has in addition to its own powers all the powers of a parish council. Neighbouring parishes of any size may be grouped together under a common parish council, but with a separate parish meeting for every parish so grouped; but in practice the grouping provisions of the Act of 1894 apply only to small parishes. No parish may be included with others without the consent of its parish meeting. Every rural parish must have a parish meeting, and every rural parish with a population of 300 or more shall have a parish council. But in the case of a parish with 100 or more inhabitants, if the parish meeting resolve to have a parish council, the county council must make an order providing for the establishment of such a council. In the case of a parish with less than 100 inhabitants, the county council, on such a resolution, has a discretion in providing for the establishment of a parish council. Where there is no parish council, the meeting does work similar to that of a council, but has less powers. Neither parish council nor parish meeting have any concern with church matters, though they enjoy modified powers over disused burial grounds, and must repair and maintain closed churchyards wherever the expenses of such repair and maintenance are repayable out of the poor rate under the Burial Act, 1855. The vestry still manages church matters, church property, and ecclesiastical charities, and may still levy church rates. Where there is a parish meeting the parochial electors select a chairman and overseers who together are a corporation (*q.v.*) without a common seal, but who can sue and be sued in their corporate capacity and represent the parish. The parish council consists of a chairman and councillors, but the chairman and overseers are its executive.

Parish council.—A triennially elected body, consisting of any number of male or female councillors not exceeding fifteen nor less than five, as fixed by the county council. It appoints overseers of the poor, manages secular parochial lands or buildings, provides a parish room or offices, and takes custody of all secular parish muniments of title. It can, with the parish meeting's consent, adopt the adoptive or permissive Acts for the provision of baths and washhouses, public libraries, and the making of public improvements, for which purposes it can impose a rate up to 1*d.* in the pound. It can purchase compulsorily, with the consent of the county council, land for the purpose of allotments, or hire land on the same terms, and if the county council refuse their sanction, can get permission from the Local Government Board (*q.v.*, and *see* LANDS CLAUSES ACTS and LANDLORD AND TENANT). It can, with the approval of the Local Government Board and county council, raise a loan up to a moiety of the assessable value of the district for the purpose of buying land or buildings or for the purposes of the adoptive Acts or for any permanent works; but the total rate must not exceed 6*d.* in the pound, and where it exceeds 3*d.* the parochial electors must sanction such increased rate at the parish meeting. It can provide recreation grounds and public walks; utilise any well, spring, or stream for the welfare of the inhabitants (but not so as to interfere with private rights); drain and cleanse any stagnant pool, ditch, or pond; give its consent to the closing or divertion of highways (*q.v.*), and acquire by agreement a right of way.

Guardians.—By the Act of 1834 England was divided into unions of parishes primarily for the administration of the poor law, and guardians of the poor were appointed to take over the duties of the churchwardens in that respect. Guardians in urban districts hold office for three years, and are elected by the parochial electors of each parish included in the union. In rural districts guardians *as such* are not elected, the rural district councillors for any particular area or parish acting in the capacity of guardians. The number of guardians varies, being fixed in each case by the statutory order creating the particular union, subject to alteration by the county council or Local Government Board. In some cases all the guardians retire triennially, in other cases one-third only. Both married and single women are eligible as guardians. The guardians are bound to see that all able-bodied persons in their own workhouse do their allotted work and conduct themselves properly, and where they insist upon work in consideration of out-door relief, it is their duty to see that that work is done. But out-door relief may in deserving cases be given free. The report of the

recent Poor Law Commission strongly attacked the whole institution of guardians, but up to the present (1913) there has [illegible] the subject.

poor relief is difficult to say that it is antiquated, for the remedy would seem to lie not in any legislation along poor law lines, but in the continued development of labour exchanges (*q.v.*), labour colonies (*q.v.*) of a penal character for able-bodied persons who will not work, and pensions, or an improved insurance scheme, for persons who through physical or mental infirmity are unable to earn a living. The English poor law system dates from 1601, and in spite of the Act of 1834 and [illegible] clature is not It still aims at houses, with varying degrees of deterrent treatment for idle or unfortunate able-bodied paupers; and of infirmaries for the sick and impotent; and at the education and training of pauper children. The great problem of guardians or analogous administrators has always been to determine [illegible]er is to have [illegible]o residence; [illegible] of the Act [illegible] lax manner of extending such relief, in defiance of all salutary economic principles, to any idle and vicious vagrant, and the demoralisation and degradation of the poor by the system of farming out the able-bodied paupers among the ratepayers (called the 'roundsmen system'). The result of this last-mentioned practice was to augment the rates to such an extent as almost to render half the real property in England valueless, and to make it practically impossible for the thrifty poor to live at all by their own exertions. One existing evil is the intricacy of the present Poor Law Settlement and Removal Acts. The poor are ever on the move, and their right to move cannot be questioned; but the moment they become chargeable to a new parish they can be sent back to the parish of their last settlement. Extraordinarily difficult questions arise in individual cases as to where a man's last settlement was, a difficulty enhanced not infrequently by the absence of any reliable evidence as to the pauper's antecedents and places of residence; and the expense of litigation as between rival parishes trying to force the pauper on each other may be anything between £50 to £80, or more in a single case. The guardians can, with the consent of the Local Government Board, borrow money for purposes connected with pauper lunatic asylums, schools, and workhouses. The accounts of guardians are audited by district auditors of the Local Government Board, who are bound to surcharge for improper expenditure.

District councils.—1. *Rural:* Rural district councils are corporate bodies the members of which are chosen by the parochial electors, any of the latter of whom (with the exception of aliens, infants, convicts, adjudicated bankrupts, and paupers) are eligible for office. Candidates for election must be nominated; one-third or the whole retire every three years. The main function of the council is the administration of the Public Health Acts, or Acts of a similar purpose. In this connection their duties consist in taking steps against the spread of infectious disease by enforcing the disinfection of houses and clothing; in regulating the carrying-on of noxious trades, *e.g.* blood boilers, manure manufacturers, and tallow melters (*see also* FACTORY AND WORKSHOP ACTS) in forcing any householder whose house is within 100 ft. thereof to connect his drain with the main sewer; and generally in administering the Acts relating to dairies, factories, workshops, laundries, canal boats, cremation, alkali works, and brine pumping. (As to their powers under the Housing of the Working Classes Acts, *see* HOUSING OF THE WORKING CLASSES.) They have extensive powers for supplying water within their districts, and may compulsorily buy out existing water companies, and must provide and maintain sewers. Since the passing of the Housing Act of 1909, councils must appoint their own medical officer of health, instead of as heretofore making arrangements for utilising the services of the county council officer. For their powers and duties in regard to highways, *see under* HIGHWAYS. They have supervisory powers over light railways; protect roadside wastes and rights of common: purchase land by agreement for allotments on the representation of the parish council; and proceed against persons or bodies for pollution of rivers (if by factories or mines, only with the consent of the Local Government Board). They may make by-laws relative to the maintenance of public health, new street construction, erection of buildings, and removal of nuisances (as to relaxation of existing bylaws for the purpose of housing schemes, *see* HOUSING OF THE WORKING CLASSES); and all bylaws require to be duly advertised, and sanctioned either by the Local Government Board, or some other appropriate confirming authority. The council may levy a private improve-

ment rate, but in the case of rates for other purposes, it issues precepts to the different overseers of the constituent parishes who themselves get the money through their collectors. It may borrow for various purposes with the sanction of the Local Government Board, on the security of the rates. The expenses are divided into 'general' and 'special.' General expenses are payable out of the common fund formed by the poor rate of all the contributory parishes in the district, and include, *e.g.*, the expenses of the establishment and offices of the council. Special expenses are those that constitute a separate charge on each contributory place, *e.g.* the expenses of the construction of sewers in any such contributory place or parish.

Urban councils.—The qualification for an urban district councillor, the term of office, and formalities of election are practically the same as for a rural district councillor; and the council possesses all the function of a rural district council (with the exception of the duties of guardians), together with other important powers and duties, especially those relating to education. They have wide powers over the district highways (*q.v.*), and may construct and re-name streets, and make building regulations. They can buy out local gas companies, establish and manage technical and art schools, museums, libraries, and gymnasia. They may administer non-ecclesiastical charities with the sanction of the Local Government Board; provide and regulate markets and fairs; construct cemeteries or crematoria (*see* CREMATION); provide pleasure boats; obtain a provisional order authorising them to construct light railways; and in one or two cases they have obtained special parliamentary permission to assist in the maintenance of a canal, and run omnibuses. They may levy general district rates, and in the case of small tenancies, rate the owner instead of the occupier. The most self-centred and compact unit for local governmental and, indeed, generally civic life, is the English borough with its municipal corporation (*see also* BOROUGH, and for qualification of electors, *see* BURGESS). There are some seventy-three towns, each of which by virtue of having a population of 50,000, or upwards, or being an ancient L. G. 'county,' is called a county borough. Their councils are vested with the powers of county councils (*q.v.*), and they are in the proud position of being, to all intents and purposes, independent of the administrative counties to which they are situated, while the control of the Local Government Board is conspicuous rather for its latent possibilities than its active exercise. London is on a special footing. It is divided into the City of London, the authority for which is the unreformed corporation of common council, and some twenty-eight metropolitan boroughs, including the City of Westminster, which are the creation of the London Government Act, 1899, and are governed by borough councils. The entire area constitutes the administrative county of London, the controlling authority of which is the London County Council. As to the manner of forming boroughs, *see under* BOROUGHS and CORPORATIONS. Many boroughs are justly proud of an exalted historic dignity, and can look back on an unbroken corporate life of over a thousand years. Others, however, have but recently acquired that character by petitions referred to a committee of the Privy Council, who generally hold a local inquiry into the matter, after which, according to their report, the petition for incorporation is either sanctioned or refused. If the former, the new borough is divided into wards, with a fixed number of councillors for each ward. The costs of unsuccessful applications have to be borne by the petitioners, and this fact is generally a salutary deterrent to over-ambition, and not too wealthy aspirants to civic honour. If the petition succeeds, the costs are borne by the borough fund. As a rule, the Privy Council do not recommend the issue of a charter to a town the population of which is less than 20,000.

The mayor of a borough is elected by the council, and is bound to accept office under a penalty of £100 in the event of refusal. The term of office for councillors is one year. One-third of the aldermen retire annually, their term of office being three years. The chief permanent officials are the town clerk and borough treasurer. Some boroughs have their own police force, when they must appoint a watch committee and a borough constable, while, for others, the police authority is that of the county. Again, many boroughs possess a quarter sessions court (*see* COUNTY SESSIONS), the advantage in such cases being that the bench is presided over by a trained lawyer carefully selected by the Home Secretary, instead of a bench of laymen. If the borough has a separate commission of the peace, the mayor, who is entitled to the courtesy title of 'Worshipful,' is the chairman of the borough justices, and continues to be a justice for the year following his year of office. Nearly all boroughs of any importance have a separate commission; those not so favoured, are

under the county justices appointed by the Lord Chancellor. Some boroughs also have a stipendiary [illegible] on the advice [illegible] Stipendiary Metropolitan [illegible] the city of London; they may also be appointed for any urban district with a population of 25,000. The quarter sessions of London county are presided over by a chairman or deputy chairman, whose salaries are paid by the county council, which latter body is responsible for the expenses of prosecution in cases of felony; in county boroughs the town council is liable for such expenses. The council of a borough having its own quarter sessions, which is either a county borough, or received its grant of quarter sessions prior to the Local Government Act of 1888, must appoint a coroner. In other districts, including the county of London, inquests are held by the coroners appointed by the county council. Small boroughs, with less than 10,000 inhabitants, must keep their borough sessions and magistrates courts if they possess such courts, and also contribute to the court of quarter sessions for the county. Such boroughs, though they are controlled by the county as to their asylums, reformatories, and industrial schools, and cannot themselves deal with gas, animal epidemics, weights and measures, nor control locomotives on the [illegible] however, administe[illegible] affairs at their own [illegible] rally speaking, boro[illegible] all the powers and are subject to all the duties of an urban district council, but over and above these, they have additional powers in regard to explosives, fish conservation, inebriates, local stamps, industrial schools, asylums, motor cars, weights and measures, and the Riot Damages Act. They also enjoy the privilege of making bylaws for the good rule and government of the borough, and for the suppression of nuisances not already punishable summarily by virtue of any Act in force within the borough; though all such bylaws must be approved by the Home Office. The observance of these bylaws can be enforced by a fine not exceeding £5, but not before they have been publicly promulgated for forty days in the manner prescribed by statute. For the history, constitution, powers, and duties of the county councils, see under that title.

It remains to deal with education. The school boards created by Mr. Forster's Elementary Education Act of 1870 have given place to the committees of town and district councils. Under the Education Act, 1902, the local education authorities were *county councils* and *borough councils*, and in districts of over 20,000 population the urban district councils. Under that Act the local education authority was empowered to promote higher as well as elementary education. It seems that the local authority is bound to consider the needs of their district in regard to higher and technical education, and to promote the co-ordination of all forms of education. In taking such steps as seem to them desirable to that end, they must consult the board of education, but apparently they are at liberty, after such consultation, to abandon any arrangements they may have made. The Act also enabled the education authority to establish education committees, constituted in accordance with a scheme made by the council, and approved by the Board of Education. By the Provision of Meals Act, 1906, the education authority may supply meals to school children at parents' expense, if the latter are able to bear the cost, and if not, at the public expense; and a rate of 3*d.* in the pound may be levied to meet the cost. All children, male or female, above five and under fourteen, are bound to attend school (*see also* CHILDREN ACT, 1908). The local authority may provide public conveyances to take children to and from school, and arrange for medical in[illegible] of children, and provide play[illegible] Under the Act of 1901, instruction may be given in [illegible]-aided school, provided such instruction is not denominational; but no scholar is bound to receive such instruction if his parents object.

Scottish local administration.—The Scots local governmental law, like the English, is almost wholly statutory, and the main organs of administration are almost identical. The law itself is unsystematic and unsymmetrical, many of the local authorities have been created *ad hoc* to exercise particular functions; while in many cases, new or additional powers of local administration have been vested in the existing authorities. Scotland is divided into parishes for purposes of poor law relief, and into burghs and counties for all other purposes of L. G. The four principal local administrative bodies are the town councils, county and parish councils, and the school boards. The old ecclesiastical parish remains the only area for poor relief and education; but for the maintenance of order, public health, and the upkeep of roads the administrative area is either the burgh or the county. As in England, there is a tendency to

increase the unit of area by grouping, or by extension of burgh boundaries under general Police Acts. There is also the same evil of overlapping areas, for frequently the municipal, parliamentary, and police areas are not so extensive. The Local Government (Scotland) Act, 1894, like the English Act, readjusted the boundaries and relations of the various existing local bodies, and created new local bodies, and a new central authority, the parish council superseding the parochial board, and the Local Government Board (Scotland), the old Board of Supervision. In 'mixed' parishes (partly urban and partly rural), a landward committee is appointed, composed of parish councillors elected for the rural wards. The urban parish councils' functions are practically confined to the administration of the poor law, though all parish councils administer parish trusts, and where the parish is not a royal or parliamentary burgh (*q.v.*) appoints the registrar of births, deaths, and marriages, and repairs the burial grounds in other than parliamentary burghs. They also have powers under the Vaccination Acts. But rural parish councils and landward committees exercise many of the functions of a town council: for example, they can acquire land for buildings, maintain rights of way, and put in force the Small Holdings and Housing Acts, besides administering the Public Health Acts.

The functions of the town councils of the burghs are to be found in the Burgh Police Acts, 1892-1903, the term 'police' being used almost as a synonym for public health. There are some 200 burghs, and their populations vary from a few hundreds to 50,000 and upwards. But, generally speaking, only burghs of over 20,000 inhabitants can appoint their own police force; in other cases the county council, as in England, is the police authority. The chief duties of town councils are to light public streets and places; maintain, cleanse, and generally control public streets and footways; regulate the erection of new buildings, whether dwelling-houses, churches, theatres, hotels, schools, factories, or other industrial buildings; provide for the sewerage and drainage of the burgh; provide the water supply (there being no water companies in Scotland); and generally exercise statutory powers and duties under the Public Health (Scotland) Act, 1897, the Burgh Sewerage, etc. Act, 1901, and other Acts in regard to nuisances, unsound food, common lodging-houses, infectious diseases, and other matters concerned with the public health. They also enjoy wide power under the Rivers Pollution Prevention, the Public Parks, Public Libraries, Factory and Workshop, Shops Regulation, Diseases of Animals, and Sale of Food and Drugs Acts. They are authorised to assess the burgh up to 3*d.* in the pound for the general improvement rate, for the burgh general assessment up to 2*s.* in the pound (upon occupiers only); and up to 4*s.* in the pound for the water and sewer assessment. They may also make assessments under the Public Health Acts, under similar limitations to those obtaining in England.

The county area for L. G. purposes is, generally speaking, the geographical county, excluding the royal and parliamentary burghs. Some smaller burghs and police burghs are, however, included in their counties for certain purposes and autonomous for others. Scots county councils hold three statutory general meetings annually—in May, October, and December—but generally all the powers except that of raising money are delegated to committees. The functions of the county councils are generally derived from the Local Government Acts of 1889 (under which the councils took over the administrative duties of the justices of the peace, and superseded the old Commissioners of Supply for all purposes except the management of the county police force and the control, capital expenditure, and borrowing), 1894 (enabling county councils to make orders for purchasing land, adjust or define the boundaries of parish wards, and entertain representations by parish councils as to leasing land for allotments, and as to lighting, scavenging streets, and maintaining baths and wash-houses), and 1898. The Act of 1898 empowers the council to provide county buildings and dwellings, and borrow money for such purposes; acquire land for the purposes of any of the powers and duties conferred upon them; provide fire engines; and regulate piers and ferries; license hackney carriages; take over by agreement existing private hospitals or sanatoria; enter into joint agreements with other county councils for the improvement or maintenance of highways or bridges; and review the decisions of the road boards. Under the Public Health Acts the council may create county areas for the purposes of water supply, drainage, cleansing, and other matters, and impose, therefore, a special rate. Through the joint standing committees the county councils exercise powers over the police analogous to those of town councils and burghs which maintain their own police force. The council appoints a county road board to con-

trol highways under its authority, but the detail of local maintenance is delegated to district committees. The council's powers over roads extends only over country roads, and the streets of some of the smaller burghs. The councils also exercise such powers under the Public Health Acts as were prior to 1889 exercised by the old parochical boards. In most other respects their powers are assimilated to those of independent town councils, and they may make a general assessment for public health purposes up to 1*s.* in the pound, and levy a general purposes rate for any object not covered by any special rating statute.

School boards under the Education Act, 1872, consist of triennially elected members up to any number not less than five fixed by the Scottish Education Department. These boards are concerned with nothing outside education. They enjoy compulsory powers for the provision of all necessary school premises, and may provide for compulsory continuation classes for pupils between fourteen and seventeen years of age. Industrial and reformatory schools are not under local governing bodies. There are in addition to all the above local administrative bodies, lunacy district boards to supervise all establishments for the reception of lunatics, and fishery district committees to regulate sea fisheries. *See* Erskine's *Principles of the Law of Scotland*, 1911; and Bell's *Principles of the Law of Scotland* (10th ed.).

In Ireland the hierarchy of local governing bodies, the distribution of powers and duties among them, and the code by which matters affecting public health are regulated, closely approximate in all) L. G. law of ses Prevention nces Removal Acts all apply to Ireland, and the general codifying Public Health Act for Ireland of 1878, with subsequent amendments, comprises practically all the laws relating to public health in Ireland. County councils for Ireland were not established till the passing of the Local Government (Ireland) Act, 1898. By this Act all the administrative and financial business of the grand jury at presentment sessions was transferred to the county councils. The duties of the guardians as to levying and collecting the poor rate outside urban county districts, and as to the administering of the Diseases of Animals Act, 1894, and the Destructive Insects Act, 1877, were also transferred to the county council. They have, in addition, power to supply or aid other local authorities in supplying technical or manual instruction. They bear half the cost of maintaining main roads, and may declare new roads to be main roads. They provide and manage lunatic asylums, appoint coroners, manage county infirmaries, make such by-laws as may be made by borough councils for the maintenance of order, and have power to acquire land for various purposes. Dublin, Belfast, Cork, Limerick, Londonderry, and Waterford are constituted by the Act administrative counties called county boroughs, and their councils are vested with practically all the powers and entrusted with all the duties of a county council, the principal exceptions relating to main roads and coroners. The sanitary authorities for all places other than the six county boroughs and the five boroughs of Clonmel, Drogheda, Kilkenny, Sligo, and Wexford were, as in England, converted into urban and rural district councils. Town or township commissioners of towns and townships under local Acts are now therefore styled district councils. Ireland also has its boards of guardians for the administration of the poor law. The district councils have transferred powers analogous to those of borough councils. The making, levying, and collecting of the poor rate is the business of the district councils and not of the guardians, and many other important functions of the latter have been transferred to the councils. Generally speaking, the district councils, as in England, are the authority for the administration of the Public Health Acts, so far as their districts are concerned. Towns with a population exceeding 1500, but which are not urban sanitary districts, may be constituted urban sanitary districts by order of the Local Government Board for Ireland. There are no parish meetings or parish councils like those of England, and the term 'parish' is unknown to the L. G. law of Ireland. Places which are too small to be themselves sanitary districts are included in larger areas (*see* Vanston's *Local Government*).

Bibliography. — Lumley, *Public Health Acts*, 1908; Jenkin, *Local Government Act*, 1894; Macmorran and Lushington, *Poor Law General Orders*; Hunt, *Law relating to London Local Government*; Redlich and Hirst, *Local Government in England*, 1903; Webb, *English Local Government*, 1906; Cornish, *District Councils*; Cassou and Whiteley, *Education Act*; Darwin, *Municipal Trade*; Avebury, *Municipal and National Trading*, 1907.

Local Government Board. In former years this department was known as

the Poor Law Board, but it has long since drawn within the ambit of its jurisdiction such wide supervisory powers in local government as almost to justify the aphorism that 'England is ruled by an order of the Local Government Board.' Nominally the L. G. B. consists of a president and various *ex officio* members, viz. the Lord President of the Council, all the chief Secretaries of State, the Chancellor of the Exchequer, and the Lord Privy Seal. But in practice this Board never meets, and the president, who changes with the ministry, and is almost always in the cabinet, exercises, subject to the control of parliament, all the powers of the department. He has a parliamentary assistant called the Parliamentary Secretary, who also goes out with the ministry, and is also assisted by a permanent secretary, various other secretaries and assistant secretaries, besides a large body of district auditors, clerks, messengers, and such other officers as the president, with the sanction of the Treasury, deems necessary. The supervisory powers of the L. G. B. may be roughly divided into three classes, poor law, public health, and local finance (*see also* LOCAL LOANS). The board has strong disciplinary powers over poor law guardians, and supervises the administration of the Baths and Wash-houses Acts, the Acts for the Housing of the Working Classes (*see* HOUSING OF WORKING CLASSES) outside the administrative county of London (the London County Council is the controlling authority for housing matters in London), the Motor Car, Alkali, Vaccination, Canal Boats, and Metropolitan Water Acts. The Board was also authorised to see to the interests of unemployed workmen in accordance with the Unemployed Workmen Act, 1905, but its powers in this respect have become for all practical purposes merged in the controlling authority of the Board of Trade over the labour exchanges (*q.v.*). The Board also inspects pauper schools and lunatic asylums, audits the accounts of local authorities through its district auditors, holds local inquiries as to matters relating to local government (*e.g.* where a sewage or a housing or town-planning scheme is proposed for any particular district), and inspects . . . Where a local authority . . . duties with respect to th . . . of food, the L. G. B. h . . . appoint an officer to execute the provisions of the Sale of Food and Drugs Act, 1899, at the expense of the local authority. The Board certifies the suitability of schools provided by members of various religious denominations and philanthropic societies for pauper children under the control of guardians. It may order any two or more local councils to act together for the prevention of epidemic diseases, and under the Public Health Act may consent to the provision by councils of temporary supplies of medicine and medical assistance for the poorer inhabitants of a district; but its powers in this latter respect since the passing of the National Insurance Act have become less important. If a local council neglects to abate a nuisance, the Board may authorise the police to take action, or obtain a *mandamus* to compel the council to move in the matter or appoint some person to effect the removal at the expense of the council. One of the most important functions of the board is to sanction local loans, especially in regard to the provision of public baths, libraries, sanitary conveniences, burial grounds, and housing accommodation. The accounts of all urban and rural districts, a few boroughs dealt with by local Acts, and all boroughs, so far as income and expenditure on education is concerned, are audited by the district auditors of the L. G. B. A rule, provisional or final order, or other regulation of the Board is valid if made under the official seal of the Board and signed by the president, or one of the *ex officio* members, and countersigned by a secretary or assistant secretary (*see also* LOCAL GOVERNMENT). There are also separate local government boards for Scotland and Ireland.

Local Marine Board, *see* MERCHANT SHIPPING.

Local Option, or Local Veto, is the phrase that has become current in political circles to denote the power extended in some countries to the electorate of specified districts to determine for themselves whether liquor licences shall be allowed to be granted or not. This privilege exists in certain of the states in America and in Australia (*see under* LICENCES AND LICENSING ACTS), and is generally known as local prohibition. The only power in any way analogous to L. O. in England is that of the justices at Brewster sessions to refuse to grant or renew licences to obtain liquor licences. But the power or discretion . . . limited one, the justices . . . to grant renewals of old . . . ie premises are structur- . . . and the applicant is a suitable person. As to new licences, however, the justices are empowered to consider the needs of the district, for it has long ago been decided (1870) that they might refuse a new licence on the ground that there are already

too many alehouses in the district. But this power of refusal for 'redundancy' is far less drastic than a popular veto. The one determined effort made to introduce such a system in England was in 1895, when Sir William Harcourt (then Chan- oduced (Local o Mr. ur Own was to convert practically all the publicans of the country into Tories, while many strong Liberal politicians deemed the proposal premature and undesirable. At that time it seems the general opinion was that the drink evil was steadily abating, and that with an improved national system of education, restrictive legislation in licensing would prove unnecessary.

The fundamental principle of L. O. is popular control of the grant of licences. It goes beyond mere reform of the Licensing Acts which impose restrictions from without, for it gives the people direct power to reform themselves. It is in Sir William Harcourt's words an 'appeal direct to the conscience of the people.' The idea underlying the Bill of 1895 was that if in a certain parish two-thirds of the ratepayers voted for the prohibition of the granting of licences, the votes should operate against the granting of all retail licences.

The principle of L. O. obtains in Sweden and Norway, but it is a moot point whether the undoubted reforms in those countries are to be traced to that system or to the co-existing 'Gothenburg' or company system. Under this system (called *Bolag* in Sweden, and *Samlag* in Norway), the municipal authority is empowered to limit the number of licences, and to sell them to a company formed *ad hoc*. This system applies exclusively to spirits, which, however, have always been the national drink. By 1906 about 100 towns in Sweden and 30 in Norway had adopted the system. L. O., however, was readily embraced in rural districts in Sweden, where the bulk of the people live, and it has certainly produced good results. Generally worse in its ral life, and ern opinion would be in favour rather of schemes for municipalising and regulating the liquor traffic than for its total prohibition.

The power of local prohibition was introduced into Canada by the 'Scott Act,' and has been widely applied. In Australia only adopted L. O., and has not applied it, states either have a limited kind of veto as to new licences, or a L. O. to reduce existing licences.

In Scotland L. O. as a legislative proposal is making headway. The Temperance (Scotland) Act received the Royal Assent on Aug. 15, 1913, as the result of a compromise between the two Houses of Parliament. Under its provisions electors in moderate-sized districts are to be empowered to decide on the number of licences in their locality; and a requisition for a poll must be signed by at least 10 per cent. of the electors. A resolution to limit licences must be passed by a resolution of 30 per cent. of the electors, while a majority of three-fifths of the people can resolve to have no licences at all. But no poll is to take place till 1917, nor any house closed till May 1918. See ol. 32), 1895; *Temperance Denmark.*

Local Rank, or **Temporary Rank**, is sometimes conferred upon an officer to enable him to command officers senior to him in a certain locality. It only holds good within the 'command' or country in which it has effect, but therein it has the same advantages of precedence, command, and pay as ordinary rank. Brigadier-general, for instance, is a local or temporary rank.

Local Taxation Grants. Before 1889 Treasury contributions in aid of local rates were made by direct subventions towards particular services. But by the *Local Government Act*, 1888, this system was superseded by one of transfer to local purposes of the revenue accruing from certain licence duties and probate duty. The moneys were paid, in the first instance, into the Local Taxation Account at the Bank of England prior to its distribution among the county and county borough councils created by that Act (*see* COUNTY COUNCIL). Nominally these branches of revenue were assigned to the local authorities, but in practice the duties were collected by the state. In 1890 the local taxation account was augmented by a portion of the customs and excise duties, and in 1894 by a grant out of the estate duty in place of the probate duty (as to the abolition of which *see under* DEATH DUTIES). The amount of the estate duty granted was 1¼ per cent. of the net value of property chargeable to duty under the Customs and Inland Revenue Act, 1881, as ascertained by the Commissioners of Inland Revenue. The proceeds of the local taxation licences consist of the n retailers' spirits, beer, wine cets licences, game dealers' licences for beer, spirit,

sweets, and wine dealers, refreshment house keepers, dogs, guns, tobacconists, carriages, trade carts, locomotives, horse dealers, house agents, auctioneers, appraisers, pawnbrokers, male servants, horses and mules, plate dealers, and armorial bearings. The grant of customs and excise duties consisted of surtaxes of 3*d.* a barrel of 36 gallons (beer) and 6*d.* a gallon on spirits. Out of these latter duties a fixed sum of £300,000 is appropriated to police superannuation, and the residue, known as 'whisky money' since the Education Act, 1902, is compulsorily applied to higher education. To make up the deficiency created by reason of the provision in the Agricultural Rates Act, 1896, [illegible] land from [illegible] that Act provided for the payment into the Local Taxation Account of an annual grant of such an amount as should be certified by the Local Government Board to be due. In 1899 the local taxation account was charged with half the rates payable by owners of tithe rent charge, and that amount is always deducted from the estate duty grant before the latter is paid into the account.

In 1909 the collection of the duties on local taxation licences was handed over to the county and county borough councils; but with this exception the state did not surrender its control over the revenues assigned by the Act of 1888. In 1910 the grant from the excise and customs duties was fixed at the amount received in 1908-1909 (£941,222 was paid in to the local taxation account in 1909-10, to which a further payment of £200,000 will be made under the Revenue Act, 1911, to bring the total amount up to that collected in the preceding financial year). The grant from the proceeds of the duties on carriages, motors, and liquor licences has been similarly fixed, the amount accruing from the two first-mentioned sources over and above the fixed amount being now allocated to the Road Improvement Fund. The proceeds of the above sources of revenue, or the fixed sums given in substitution were up to 1907 still paid into the local taxation account, the share of [illegible] amounts of estate duty and agricultural rates grants were charged on the Consolidated Fund, and directed to be paid out from that fund. The scheme of allocation among the councils is highly complicated. The local authorities each receive (1) the amount of the local taxation licences collected in their respective areas, less the commuted or fixed amounts above noticed; (2) out of the estate duty grant a sum proportionate to the grant in aid received prior to the coming into operation of the Local Government Act, 1888; (3) a proportionate part of the residue ('whisky money') from the beer and spirit surtaxes. The grant under the Agricultural Rates Act is paid into the local taxation account, and an equal amount is paid out again to the county [illegible] politan and oth[illegible] money is then distributed: (*a*) Among the Boards of Guardians for one half the salaries of officers, drugs, maintenance of pauper lunatics, etc.; (*b*) among the district councils for half the salaries of medical officers of health and sanitary inspectors; (*c*) Among the respective police controlling authorities (*see under* LOCAL GOVERNMENT) for half the cost of pay and clothing of the police; (*d*) for higher education (*see above*).

In 1909-10 the exchequer contributions account of the county and county boroughs showed that £609,418 was paid for higher education, £958,837 to the guardians (outside London); £1,251,138 for police; £931,646 for pauper lunatics; £58,734 for poor law medical officers in London; £196,539 for medical officers of health, and £1,690,077 in relief of rates. The grants direct from the exchequer for elementary education were £11,139,688; for higher education, £1,159,114, and for other services £341,759. The local taxation licences yielded £3,749,187; the estate duty grants amounted to £2,504,651; the tithe rent charge grants, £144,039, the balance being [illegible] March 1911 the receipts of the spending authorities amounted to £122,953,000 (excluding loans). Of this £21,073,000 was made up of exchequer grants.

Locana, a vil. of Turin, Italy, 25 m. N. of Turin. Pop. 6000.

Locarno, or Luggarus, a town of Ticino, Switzerland, on Lago Maggiore (N.), 10 m. S.W. of Bellinzona. It is situated on the St. Gothard route. Pop. 3800.

Loc. cit. (Lat. *loco citato*), in the place cited or quoted.

Loch [illegible] trator, He served in the Sutlej campaign of

1845, and throughout the Crimean War in 1854. Despatched on a special mission to China, he was, together with a small band, treacherously seized by Chinese officials, returning from Tung-chan, and endured terrible imprisonment for three weeks. The hardships he suffered left a mark on him all his life, and in 1861 he quitted the army and became private secretary to Sir George Grey, Secretary of State at the Home Office. From 1863-82 he was governor of the Isle of Man. In 1884 Gladstone sent him to Australia as governor of Victoria, an office he filled for five years. In 1889 he became governor of the Cape and high commissioner in S. Africa; the most striking incident of this part of his career being his mission to Pretoria in 1894. He left Africa in 1895 and returned to England, when he was raised to the peerage.

Lochaber, a wild, mountainous dist. of S. Inverness-shire, Scotland, with beautiful glens and moors, near lochs Linnhe, Leven, and Eil.

Lochee of Gowrie, Edmund Robertson, Baron (1845-1911), a British politician and lawyer, born at Kinnaird, Perthshire. He was called to the bar in 1871, and held the professorship of Roman law at University College, London, for a number of years. From 1892-95 he was a civil lord of the Admiralty, and under Campbell-Bannerman's administration became secretary to the Admiralty in 1905, a post which he retained for three years. In 1908 he was created a peer.

Loches (ancient *Leuca*), a tn. in Indre-et-Loire dept., France, on the Indre, 23 m. S.E. of Tours. It has an old 15th-century castle and fortress. Pop. 5000.

Lochgelly, a police bor. of Auchterderran par., and tn. of S.W. Fifeshire, Scotland, 7 m. N.E. of Dunfermline. It has coal mines, iron works, and blast furnaces. Pop. (1911) 9076.

Lochgilphead, or Lochgilp Head, a police bor. of Argyllshire, Scotland, on Loch Gilp, 1¼ *m.* N.N.E. of Ardrishaig. Pop. (1911) 921.

Lochleven, *see* LEVEN, LOCH.

Lochmaben, a royal and police bor. of Dumfriesshire, Scotland, 8 m. N.E. of Dumfries. In Castle Loch are the ruins of Lochmaben Castle, the traditional birthplace of Robert Bruce. Pop. (1911) 1056.

Lock, is used in its original sense of an enclosure or barrier, for a length of water in a river or canal enclosed at both ends by gates, the 'lock-gates,' and fitted with sluices to render possible the raising of vessels from a lower to a higher water-level or the reverse. *See* CANAL.

Lock, *see* GUNS.

Locke, John (1632-1704), an English philosopher, born at Wrington, in Somersetshire. L. was at Westminster School from 1646-52, when he entered Christ Church, Oxford. After taking his M.A. in 1658, he became a tutor of Christ Church in Greek and philosophy. He early showed a dislike for the scholasticism of men like John Owen, the Puritan dean of Christ Church, and, though inclined towards an ecclesiastical career, became interested in experimental inquiries, and for a time practised medicine in Oxford, though he never took his doctor's degree. During the summer of 1666 he met Lord Ashley, afterwards Earl of Shaftesbury, and later became his confidential secretary, remaining with him for fifteen years.

In 1666 his theories with regard to religious liberty and the relation between Church and State were set forth in an *Essay concerning Toleration*. In 1670 the famous *Essay concerning Human Understanding* was begun. At a meeting of friends, the conversation turned on the principles of morality and theology, coming to a standstill at the greatness of the [illegible] onted them. L. [illegible] that he should [illegible] paper the 'limits of human understanding,' so that they might frankly consider what questions the human understanding was able to deal with. Out of this conversation grew the *Essay*, which was not published till 1690.

While Shaftesbury was in power, L. was appointed Secretary of the Board of Trade (1672), but on his fall in 1675, L. was deprived of office and of his Oxford studentship, and was obliged to find a retreat abroad. At Montpellier and Paris he devoted his time to study and writing. In 1679, Shaftesbury having been restored to power, he returned to England, and, though he took no part in the political plots of the following years, he was under suspicion as the friend of that prominent statesman. In 1683 he withdrew to Holland, which was then the refuge of many men who were not allowed freedom of thought in their own country. After the revolution of 1688 he returned to England, and was rewarded with a commissionership of appeals. L. now appeared, late in life, as an author, and won European fame. In 1689 his *Epistola de Tolerantia*, dedicated to Limborch, the champion of Liberal theology in Holland, was translated into English, and was followed in 1690 by a treatise on *Civil Government* and the *Essay Concerning Human Under-*

standing. The *Letter on Toleration* had called forth an *Answer* from Jonas Proast, and L. contributed to the controversy that ensued a *Second* and a *Third Letter*. Meanwhile, his health was failing, and in 1691 he took up his permanent abode at Oates in Essex, the country seat of Sir Francis Masham. In 1693 he published *Thoughts on Education*, which were collected from a series of letters he had written from Holland to Edward Clark of Chipley, concerning the education of his son. Two years later he published anonymously the *Reasonableness of Christianity*, endeavouring to separate the simple and enduring facts of Christianity from the verbiage of dogma. This treatise also evoked a controversy, and L. defended himself in a *Vindication* and a *Second Vindication*. During 1696-1700, when he was busy with his duties as a commissioner of trade and plantations, he published answers to his various critics, an *Examination* of Malebranche's philosophy, additions to and alterations of his *Essay*, and wrote his *Conduct of the Understanding*. In 1700 he retired from public office, and during the remaining four years of his life spent much time in meditation and in close study of the Bible. He was buried in the parish church of High Laver, about a mile's distance from Oates.

The object of the *Essay* is to examine the character of thinking and the extent of our abilities in thought. In his *Toleration* he urges that there should be no disability attached to religious belief. His method of presenting his ideas is straightforward and vigorous, but his style is lacking in grace. L. has had a powerful influence on subsequent thinkers, and the works of Addison, Barclay, Hume, and many others owe much to him. The individual's absolute freedom of religious thought, which is taken for granted in modern times, has been achieved by means of L.'s advocacy. L.'s works were first collected in 1714 in three volumes. The best edition is that of Bishop Law (1777). The *Essay*, which has been translated into most European languages, has passed through numerous editions, of which the best is probably Professor Campbell Fraser's, with annotations (1894). *See* 'Eloge' of Jean le Clerc (*Bibliothèque choisie*, 1705); *Life* by Lord King (2nd ed., 1830), and Fox-Bourne (1876); Studies by Fowler (English Men of Letters Series, 1880), and Campbell Fraser (Philosophical Classics, 1890); and Leibnitz, *Nouveaux Essais*, 1765; Cousin, *Lectures on Locke*, 1829; Webb, *Intellectualism of Locke*, 1857; Bastide, *John Locke; ses théories politiques et leur influence en Angleterre*, 1907; Ollion, *La philosophie générale de John Locke*, 1909.

Lockerbie, a tn. of Annandale, Dumfriesshire, Scotland, 3½ m. from Lochmaben. The largest lamb-fair in Scotland is held there annually in August. Pop. (1911) 2455.

Locker-Lampson, Frederick (1821-95), an English poet. In 1857 he published *London Lyrics*, a collection of charming light verse of his own composition, upon which his fame mainly rests. He issued many editions of this slim volume (the last appearing two years before his death), and altered and added to the contents. He compiled *Lyra Elegantiarum* (1867), an anthology of light verse, and *Patchwork* (1879), a selection of prose passages. *My Confidences*, an informal autobiography, appeared posthumously (1896), with a preface by his son-in-law, Augustine Birrell. L. was a great and discerning collector, and in 1886 printed a catalogue of his famous library at Rowfant.

Lockhart, John Gibson (1794-1854), an author, born at Cambusnethan. He was an early contributor to *Blackwood's Magazine* (founded 1817). In 1818 he met Walter Scott, and two years later married the novelist's eldest daughter, Sophia. He wrote many articles and novels, and in 1825 accepted the editorship of the *Quarterly Review*, and settled in London. He did not retire from the control of the *Quarterly* until 1853. In 1828 appeared his biography of Robert Burns, in the following year contributed to Murray's Family Library a *History of Napoleon Bonaparte*, and in 1832 issued the *History of the late War, with Sketches of Nelson, Wellington, and Napoleon*. His greatest work was the *Memoirs of the Life of Sir Walter Scott* (7 vols., 1836-38), and this biography ranks as second only to Boswell's *Johnson*. Very generously L. made over the profits of this book to the creditors of Sir Walter Scott. As a novelist L. was not particularly successful, but *Some Passages in the Life of Mr. Adam Blair* (1822) repays perusal. There is a biography by Andrew Lang (1897).

Lockhart, William Ewart (1846-1900), a Scottish painter. He visited Spain several times, first in 1867, and came to London about 1887. His chief works include: 'Orange Harvest at Majorca' (1876), 'Almaschar' (1879), 'The Cid and the five Moorish Kings' (1882), 'The Swincherd' (1885), 'A Church Lottery in Spain,' 'Portrait of A. J. Balfour,' 'Cardinal Beaton' (1880). He painted for Queen Victoria the 'Jubilee Celebration in Westminster Abbey' (1887-89),

which is now at Windsor. L. became R.A. in 1878.

Lockhart, Sir William Stephen Alexander (1841-1900), a British general, entered the Indian (Bengal) army in 1858. L. served in the Indian Mutiny, the Bhutan campaign (1864-66), and the Abyssinian expedition (1867-68). He won fame also in the Afghan War (1878-80), and the third Burmese War (1886-87). From 1890-95 he commanded the Punjab frontier force, and became commander-in-chief in In[illegible] the Tirah among the [illegible]

Lock Haven, the cap. of Clinton co., Pennsylvania, U.S.A., on the Susquehanna R., 20 m. W.S.W. of Williamsport. Pop. (1910) 7772.

Lock Hospital, a leper hospital, known as the Lock Lazar Hospital, was in Southwark as early as 1453. It was later turned into a hospital for the treatment of venereal diseases, in which sense only the term 'Lock Hospital' is now used.

Lockjaw, *see* TETANUS.

Lockport, the co. seat of Niagara co., New York, U.S.A., 22 m. E.N.E. of Buffalo, on the Erie Canal. There are mills and a fine manufactory of indurated fibre ware. Pop. (1910) 17,970.

Locks and Keys. A lock is a fastening which consists of a bolt held by one or more movable parts in a certain [illegible] fastening were by means of knotted thongs or a wooden or metal bar placed across the inside of a door. The modern lock is the product of evolution from such a bar, sliding in staples and entering a hole in the door-post. A curved key, in shape somewhat like a sickle, was used to move such a bar, and examples have been found in many parts of Northern Europe. The earliest locks of all are probably the Chinese, of which some specimens still extant are as secure as any made in Europe up to the 18th century. Some Egyptian locks are known to be 4000 years old, and locks on the Egyptian plan may be found in many remote places in Europe. The Egyptians made the portion of the hole into which the retaining pegs were inserted hollow, and the key had pins upon it corresponding with these pegs. The key was inserted into the end of the bolt. The Romans based their locks on the same principle as the Egyptians, but the bolt is smaller, and the dropping pins are pressed downwards by a spring. The key was introduced into a casing, not into the end or side of the bolt, and the key-hole had a horizontal extension which allowed it to be moved sideways to unlock the door. Another variety of Roman lock was that in which springs pressing against a stop kept the bolt locked; the key compressed these springs and then moved the bolt. The early English and mediæval keys were the forerunners of the modern keys from a mechanical point of view. In the locks of this period a pivoted tumbler is used instead of dropping pins. A number of impediments contained in the lock case were from an early period interposed between the key and the bolt; these are called wards, and the portion of the key which enters the lock is formed so as to escape them. The number and intricacy of the wards among other things distinguish a good lock from a bad one. Both the keys and the locks of the 17th century were in many cases works of a high artistic value. The English makers of ornamental keys in the time of Charles II. were quite on a level with the best of the foreign craftsmen, as many specimens of their work were exported. Robert Barron improved the mechanism of locks in 1778, by placing two levers to guard the bolt, instead of one only, as had previously been done; and he also made it necessary for the levers to be lifted up to the right height exactly before the bolt could be turned. The Bramah lock of 1784, invented by [illegible]h Bramah (1749-1814), marks [illegible] ext stage in the improvement of [illegible] A number (generally six) of metal plates called sliders, the notches in which must be brought into certain positions before the key could be used, formed the distinguishing feature of the lock. Notches to fit the sliders are cut in the end of the key-barrel. This lock was called by the makers 'the impregnable,' and it was for some time considered impossible to pick. The Chubb lock was patented in 1818, and since then has been many times altered and improved. It is a tumbler lock, and has more tumblers than usual with the addition of a lever called the 'detector,' [illegible] and fix [illegible] tumbler Notice is thus given of any attempt at picking the lock, even if unsuccessful, as the rightful key will not then open the lock, until it has first been turned the reverse way. Both the Bramah and Chubb locks were thought to be 'unpickable,' until in 1851 Mr. A. C. Hobbs, an American locksmith, succeeded in picking both varieties, earning a reward of £200 for picking a Bramah lock. The Yale lock, an American invention and widely used in the U.S.A., was invented

about 1860. It is also a tumbler lock, but the small flat key and the key-way interlock throughout their length owing to their peculiar cross section. When it is necessary to have a series of locks which shall all have their own separate keys, but also one master-key which will open them all, one of two methods may be used for the latter. The wards of each lock may be different so that each key will only fit one lock, whilst the master-key will have the bit filed off and so fit all the locks. This is open to the objection that any of the subordinate keys may be made into a master-key by filing off the right piece. The other method is to make all the levers of each lock alike save one; another 'gating' is cut in the differing levers so that the master-key, which is specially cut, will fit all the locks. In safe deposits, unless a fresh lock were to be fitted every time a safe changed hands, which would be a troublesome and expensive proceeding, some invention by which the key of the outgoing tenant of the safe might be rendered useless was necessary. Such an invention was patented by R. Newell in 1841, and introduced into Great Britain by A. C. Hobbs in 1851. The Chatwood Safe Company now make an improved form of changeable key locks. Locks in which the internal parts were arranged in their right position by the manipulation of external parts which were marked with letters, numbers, or other device have been common in China from remote antiquity, but the history of their invention unfortunately remains obscure. Such locks are, of course, the predecessors of the combination locks which have been brought to such a degree of excellence in America. Blocks of metal corresponding to the different letters of the alphabet are introduced into the lock, and the person locking the door places these to spell any word or combination of letters he chooses. When the door is once locked no person can open the door without a knowledge of the same word as was used in shutting it, even if he has the key. Combination locks are also made in which the mere fact of setting the dial, mounted on the spindle which passes through the door to work the wheels, in the right manner opens or closes the door, no key being required. The application of time to locks, so that the period during which a door remains locked may be exactly predetermined, is a recent invention, and is very suitable for strong-rooms, etc., which can thus be locked during the night. Time locks are worked by a high class chronometer movement, not liable to get out of order easily, which drives a disc provided with gating which the bolt can only enter at the time desired. One movement is sufficient to work a time lock, but three or four are usually provided to provide against any breakdowns. When once a time lock has been set, it cannot be opened until the appointed hour by any key whatsoever.

Locle, Le, a tn. in the canton of Neuchâtel, Switzerland, 24 m. N. of Neuchâtel. It is the chief centre of the watch-making industry. Pop. 12,696.

Locomotives, *see* RAILWAYS and STEAM-ENGINE.

Locomotor ataxia, in medicine *Tabes Dorsalis*, a nervous disease, the causes of which are still uncertain, though syphilis is undoubtedly concerned. The chief symptoms are the want of co-ordination of the muscular movements, from which the disease gets its name, but the eyes and other special senses are also disturbed. The disease may come on quite gradually and remain in any of its stages, but continued progress leads to paralysis.

Locri, two distinct tribes of ancient Greece; one occupied the district from the N.E. of Parnassus along the coast of the Maliac Gulf, enclosed on the W. by Doris and Phocis, while the other occupied the district S.W. of Parnassus, on the N. shore of the Corinthian Gulf between Phocis and Ætolia. The former were divided into the L. Epicnemidi to the N., and the L. Opuntii, from their capital Opus, to the S., and they are mentioned by Homer. The latter, the L. Ozolæ, do not appear in history until the Peloponnesian War. A colony called L. Epizephyrii, from which tribe is unknown, under the leader, Euanthes, settled in S. Italy, N. of Cape Zephyrium, about 683 B.C. It had a famous code of laws given by Zaleucus in 664 B.C.

Löcse (Hungary), *see* LEUTSCHAU.

Locus, in mathematics, the line traversed or surface covered by a point limited in its motion by definitive conditions. The L. of a point moving subject to the condition of constant distance from another, but fixed, point is the surface of a sphere; if, on the other hand, it be restricted to motion in one plane only, the L. will be the circumference of a circle. Every curve is the L. of a point constrained in motion and the investigation of the conditions is considered in analytical geometry.

Locus Standi, literally, a place of standing: (1) In law, means the right of audience in a lawsuit. No counsel has a right to say anything during the hearing of a case unless he has

been 'briefed' or instructed by solicitors acting for one or other of the litigating parties. A counsel who holds a 'watching brief' for parties interested, but not actually on the record as parties to the suit may, like any member of the public, hear the evidence, but having no L. S., he may not speak. (2) In parliamentary practice, a term used in regard to the right of petitioners to be heard against private bills in the House of Commons. Questions on the L. S. of the petitioners are heard by the committee (*see* COMMITTEES, PARLIAMENTARY) to which the bill is referred. This was the old practice, followed in both Houses before 1865, when the Lower House established the Court of Referees. But the former practice was soon reverted to in effect, for from 1868 to 1903 the official referees on L. S. questions were regularly associated with committees on private bills, to which they were indeed appointed by the Committee of Selection, and they even assisted the committees in considering the bills. But in 1903, when the appointment of referee was finally discontinued, questions of L. S. were henceforth determined as above noted. See Erskine May's *Parliamentary Practice*.

Locust, the orthopterous insect of the family Acrididæ, the name Locustidæ having, by a freak of nomenclature, been given to the fami[illegible]e and hop[illegible]e true Ls. have short antennæ, the head has three ocelli on the forehead, and the female lacks a projecting ovipositor. Perhaps their most remarkable physiological feature is the large apertures in the first segment of the abdomen containing organs which undoubtedly possess auditory functions. The chirping is produced by working the hind legs so that the thighs, on which are minute teeth, pass over the wing-cases. A number of species are responsible for the terrible ravages which, since agriculture began, have made Ls. perhaps the most feared of all human enemies. The best-known European species are the migratory L. (*Pachytylus migratorius*) and *P. cinerascens*, and it may be said that Ls. range from the W. of Europe to China, while the American con[illegible]

[illegible]

probably in search of food, the insects will eat anything that is green and, if needs be, will devour animal substances, including their own young. The larvæ, which hatch from eggs laid by the female in a hole in the ground, are destructive from the first. They are like the parents except that they lack wings, and advantage is taken of this in waging war on the pests. While wingless, they cannot surmount smooth surfaces, and the line of march of the migratory horde is intercepted by canvas screens 4 ft. high. When they try to pass round the obstacle, they fall into deep pits where they rapidly collect, and the pits are covered with earth when nearly full. Elaborate systems of giving warning of the approach of a migratory horde enable full precautions to be taken, and many well-farmed districts claim that this method of destruction has had extraordinary success, though it cannot check the aerial migrations of adults. Swarms in the air have been known to darken the sun at noon. The periodicity of the appearance of migratory Ls. has been the subject of much speculation, it is undoubtedly governed by a shortage of food, combined with the rapid increase in their numbers, and some observers divide their visitations in multiples of eleven, but with the spread of systematic agriculture and Mattei persecution of the pests, any definite periodicity grows less likely.

Lodelinsart, a tn. of Belgium in the prov. of Hainaut, 1¼ m. N. of Charleroi, with collieries. Pop. 9000.

Lodes. Metals and metallic ores are usually found in cracks in the rocks of the earth's crust. L. is the miner's term for these veins as distinguished from non-metalliferous veins. The thickness is very variable, from a few inches to hundreds of feet. Veins may traverse every kind of rock irregularly. They seldom run parallel to the bedding, but more or less vertically, though the branching is very varied and irregular, as also is their persistence and thickness. In contorted strata the veins may run along the bedding planes. There is no proof that the mineral deposits have intruded in a molten state from below; probably in most cases they are deposited from infiltrated solutions obtained from the surrounding strata, or from deeper sources by mineral springs which have dissolved the mineral constituents from igneous rocks. The material often shows aggregated layers due to successive stages of deposit. The richness of a L. is extremely variable, but in general the portions nearer the surface which have been subject to attrition and exposed to oxidation by the atmosphere or to action of water, have waste matters (gangue) removed, the heavier minerals remaining collected together. They are, further, in the

form of oxides and carbonates, and much more easily subject to extraction of the metal than the unoxidised sulphides, arsenides, etc., which are found deeper. Some rocks are so filled by reticulated masses of veins as to render them totally unworkable. The working of L. is very frequently rendered troublesome by the appearance of *faults* (*q.v.*), but the same disturbances are useful in giving surface indications of their existence as mineral ores below. Thus dykes, cliffs, and steep valleys due to faults are surface indications of veined rocks. Prospecting for such deposits is a matter of searching for the slightest and often very indirect indications, among which may be mentioned the stones washed down the beds of streams, mineral springs, the presence in soils of disintegrated and chemically transformed products, the growth of plants feeding on such soils. Magnetic iron is indicated by the magnetic needle. *See* Phillips, *Treatise on Ore Deposits* (ed. by Prof. Lewis), 1896; Kemp, *Ore Deposits of the United States*, 1900; Thomas and M'Alister, *Geology of Ore Deposit*, 1909; and geological works of Lyell, Prestwich, Geikie.

Lodestone, *see* MAGNETITE.

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Lodge,
English genealogist, born in London. Became successively Lancaster Herald, Norroy King-at-arms, Clarencieux King-at-arms, and in 1832 Knight of
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graphy, and Manners in the Reigns of Henry VIII., Edward VI., Mary, Elizabeth, and James I., 1791. His chief work on heraldry was *The Genealogy of the existing British Peerage.*

Lodge, Henry Cabot (*b.* 1850), an American historian, born at Boston, U.S.A. He was called to the bar in 1876, and from 1887-93 was a Republican member of Congress. He was senator in 1893, 1899, and 1905 respectively, and served two terms as a member of the House of Representatives, Massachusetts. He has issued various publications, including *Life and Letters of George Cabot, Essays on Anglo-Saxon Land Law, Daniel Webster, George Washington, Hero Tales from American History, History of*
and Political Essays

Lodge, Sir Oliver Joseph (*b.* 1851), an English physicist, born at Penkhull, Staffs. In 1881 he was appointed professor of physics at University College, Liverpool, a position he continued to hold till 1900, when he became principal of the new Birmingham University. In 1898 he was Rumford medallist of the Royal Society. He was knighted in 1902, and in the following year became Romanes lecturer at Oxford. He has been president of the Mathematical and Physical Section, British Association (1891), of the Physical Society of London (1899-1900), and of the Society for Psychical Research (1901-1904). His numerous works deal chiefly with electrical science, but he has also made excursions into the fields of spiritualism and psychical research, and has recently turned his attention to the diminishing of London fogs by the forcing of condensation through strong electric fields. His publ
dern Views of
of Science,
ires, Life and Matter, Man and the Universe, The Ether of Space, Parent and Child, Modern Problems, etc.

Lodge, Thomas (*c.* 1558-1625), an English dramatist and poet, born at West Ham. Entered Lincoln's Inn in 1578, but soon abandoned himself to the lighter aspects of literature. In 1589-91, seeking variety and change of life, L. took part in two sea expeditions against the Spaniards near the Azores and Canary Islands. During the latter expedition he composed his prose tale of *Rosalynde*, which furnished Shakespeare with the story of *As You Like It*. He also published about the same time two romances, viz. *Robert, Second Duke of Normandy*, and *Euphues's Shadow, the Battaile of the Sences*. His volume of poems, entitled *Glaucus and Scilla*, also appeared in 1589. L. is likewise the author of two second-rate dramas entitled *The Wounds of Civil War* and *A Looking-glass for London and England*, and he translated the works of Seneca and Josephus. *See* his Works, edited by Gosse (4 vols.), 1884.

Lodgers and Lodgings. It is notoriously difficult to define a 'lodger,' though with considerable reservation it may be said that a tenant who has the right of exclusive possession of part of a house, subject to the general dominion over the house itself of the landlord or his agent, is a lodger. The question is important, as the right to vote may depend upon it, as was proved in the case of Kent *v.* Fittall. For a person who is in *separate* occupation of part of a house, and in no way under the control of the land-

lord, is an occupier and not a lodger, and must be separately rated before he is qualified to vote. A lodger may have exclusive *enjoyment* of an apartment let to him if he stipulates for it, but that of itself does not make him separately rateable, unless the landlord has given up the overriding control and dominion. The term most commonly connotes a person who hires rooms and attendance in a house in which the landlord himself resides. But it also means (1) a person who contracts with a boarding-house keeper for food and lodging regardless of exclusive occupation of a separate room; (2) the hirer of part of a house (that part being furnished or unfurnished) who brings his own servants and procures his own attendance, although the landlord resides on the premises; and (3) persons who live in separate tenements in model dwellings, or similar places, where there are a common staircase and a resident servant or porter appointed by the landlord to perform particular services for the tenants. A lodger's rights will ordinarily depend on the

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looked after by the landlord, who will be liable for loss or theft occurring through his neglect. Under the

lodger can protect his goods by serving on the superior landlord or his agent a written declaration stating his ownership, and containing an undertaking to pay any arrears of rent he may himself owe directly to

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damages. But he must pay or tender to the superior landlord the amount of his own arrears of rent *when they become due*, for if he does not, the goods may be distrained on, as, after giving his undertaking, he is regarded as the immediate tenant of the superior landlord. But whatever he pays to the latter he can deduct from his next payment to his own landlord (*see also* DISTRESS). Any one who lets furnished lodgings which are not reasonably fit for occupation may be sued by the lodger for damages, but

lodgings in that house without having had it disinfected to the satisfaction of a qualified medical practitioner (as testified by the latter's certificate), or makes false statements on letting lodgings in such house, is liable to a penalty not exceeding £20, or to a term of imprisonment. A lodging-house keeper who knowingly lets lodgings to a prostitute for the purposes of her calling cannot recover his rent. Letting lodgings is probably not a breach of a covenant in a lease not to underlet or part with the premises without the consent of the landlord. If a person agrees to take apartments but does not enter into possession, he is not liable for use and occupation, though he may be sued for damages for breach of contract. The measure of damage will of course be the actual loss sustained by the landlord, so that if another person takes the apartments immediately afterwards, there would be no loss. In the absence of stipulation to the contrary a lodger has the right to the use of the door-bell and knocker, the W.C., the footscraper, and, indeed, of everything necessary to reasonable enjoyment of the premises.

Lodi, a tn. and episcopal see in the prov. of Milan, Piedmont, Italy, on the r. b. of the Adda, 20 m. S.E. of Milan. The cathedral dates from 1158 and the Church of the Incoronata from 1488. There are manufactures of Parmesan cheese, majolica, linen, and silk. Pop. of com. 28,000.

Lodoicea Seychellarum, the sea or double cocoanut, a lofty palm with huge fan-shaped leaves and enormous double cocoanuts which are often found floating on the sea, and were long believed to be of submarine origin.

Lodomeria (Vladimir), the Latin name for the ancient Slav principality of W. Poland. Vladimir the Great, Duke of Kief, took it in 998. It became powerful in the 12th century; was subject to Poland from 1340-1772, in which year it became part of Galicia.

Lodz, a tn. of Russian Poland, gov. of Piotrkow, on the Lodka R., 82 m. S.W. of Warsaw. In spite of a heavy death-rate due to the unhealthy air, L. has grown more rapidly than any other town in Europe owing to the immigration of German capitalists. The population, which in 1872 was 50,000, reached 400,000 in 1910, composed of Poles, Germans, and Jews. The chief manufactures are cottons, woollens, silk, linen, chemicals, beer,

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ie name given originally to

a loamy deposit occurring in the basins of the Rhine and Danube. It consists mainly of clay with fine sand and chalk, evidently loosely deposited and since somewhat solidified by its own weight and the action of percolating water. Extensive deposits have been recognised and studied in many regions, notably China, where thousands of square miles are covered to a depth of over a thousand feet, the Black Earth of Russia, and the Mississippi basin. There has been much discussion as to its origin, leading to a general conclusion that it is windborne from desert or steppe land, desiccated lake basins, glacial moraine, and the sediment left by vastly swollen rivers of the glacial epoch. The distribution of L. may be summarised with some approximation to correctness as forming a fringe on the equatorial side of the limit of glaciation and on the great desert and steppe lands. Professor von Richthofen studied the great deposit in China, and concluded that it was the wind drifted fine dust from the central deserts of Asia, brought down by the moister air near the coast. Given sufficient rainfall, L. is extremely fertile; it weathers into vertical cliffs and horizontal terraces; excavations in the former provide homes for large numbers in China. It gives colour and name to the Hoang Ho and Yellow Sea.

Loewe, Johann Carl Gottfried (1796-1869), a German musician and composer, born in Löbejün, near Halle, and studied at Halle. He settled in Stettin and produced an enormous quantity of compositions. His ballads are particularly expressive and original, and as the composer of *Edward* and the *Erl King* (1818) he takes a foremost place among the writers of 'art ballads.' His other compositions include several oratorios, *The Destruction of Jerusalem*, *The Seven Sleepers*, and *Jean Huss*, several operas, as well as overtures, choruses, symphonies, concertos, and lyrical poems. *See* Bach's *The Art Ballad, Loewe and Schubert* (1890), and *Lives* by Bulthaupt (1898) and Runze (1903).

Lofft, Capell (1751-1824), an English author, born in London. He was called to the bar in 1775, but spent most of his life on his estates near Bury St Edmunds. He was a prolific writer on miscellaneous subjects, a zealous advocate of parliamentary reform and opponent of the American War and the slave trade. Byron ridiculed him in *English Bards and Scotch Reviewers* as the Maecenas of 'distressed versemen.'

Lofoden (or Lofoten) Islands, a large group of islands lying off the N.W. coast of Norway, between 67° 30′ and 69° 20′ N. and 12° and 16° 35′ E. The group is separated from the mainland by the Vestfjord, and is divided into two sections by the Raftsund, the Lofoten Is. proper, lying to the W. and S., and the Vesteraalen Is. to the E. and N. The famous Maelström lies between Mosbenæs and Mosken. The climate is not very rigorous; there is good pasturage for cattle, and barley can be grown. The chief industry is cod-fishing; lobsters and herrings are also caught, and cod-liver oil and fish guano are manufactured. Area over 2000 sq. m. Pop. 43,000.

Loftus, a par. and tn. of North Riding, Yorkshire, England, 9 m. N.E. of Guisborough. Alum, stone, and iron are found, and there are brickyards and tile works. Pop. (1911) 8872.

Lofty, Mount, a mountain of S. Australia, and the highest peak of the Lofty Range, situated near Adelaide. Its altitude is 2400 ft.

Log (a word of uncertain origin), in a nautical sense is an apparatus for measuring the speed of a ship. There are two main varieties of L., the common L. and the patent L. The origin of the former is obscure, and no mention of it is found until 1577. There are four parts to a common L., the log-ship or log-chip, the log-reel, the log-line, and the log-glass. The log-ship is a wood quadrant about ¼ in. thick, of a radius of 5 or 6 in., and having the circumference weighted with lead to keep it upright. There are two holes near the lower angles, through one of which the end of a short piece of thin line is passed, and knotted; the other end of the line is spliced to a hard bone peg, which is inserted in the other hole. The log-ship hangs square from this span of rope, to which the log-line is secured. The first portion of the line (from 10 to 20 fathoms) is known as the stray line, and should be long enough to take the log-ship out of the ship's wake. A piece of bunting marks the end of the stray line, and from this the line is marked with 'knots' at regular intervals. A nautical mile is assumed to be 6080 ft., and the distance between knots bears the same relation to this distance as the number of seconds in the log-glass bears to an hour. If the glass is a 28 seconds one, the distance is 47 ft. 3 in., if, as is more rarely the case, it is a 30 seconds glass, the distance is 50 ft. 7 in. For speeds over 6 knots a 14 seconds glass is generally used, and the indicated speed doubled. To heave the log, a man holds the log-reel over his head, and an officer throws the log-chip, with the peg in,

clear to windward. The log-glass is turned when the bunting reaches the officer's hand, and as soon as the glass has run out the progress of the line is stopped, and the distance measured. Various patent logs have been invented, some of which are fixed on the taffrail and the speed read off. The 'Cherub' for low speeds to 18 knots; 'Neptune' for high speeds and rocket logs were invented by Walker. All patent logs are liable to error, the extent of which should be ascertained by shore observation in calm weather.

Logan, a city and county-seat of Cache co., Utah, U.S.A., on the Logan R., 70 m. N. of Salt Lake City. It is the seat of the State Agricultural College, and of the Brigham Young College (1878). It is the centre of a rich agricultural and mining district. Pop. (1910) 7522.

Logan, John (1748-88), a Scottish poet and divine, born at Soutra, Midlothian. In 1771 he was presented to the charge of S. Leith, and ordained two years later. Some local scandal having arisen in connection with his name he resigned his charge in 1786, retaining part of his salary. He settled in London where he contributed to the *English Review*. His undisputed works include: *View of Ancient History*, 1788-93; *Essay on the Manners and Governments of Asia*, 1782; *A Review of the Principal Charges against Warren Hastings*, 1788, and two volumes of *Sermons*, 1790-91. His poems, especially the ballad, *Braes of Yarrow*, are marked by passages of rare beauty, but the charges of plagiarism and of appropriating the verses of Michael Bruce has led to a large amount of controversy, more especially in connection with the *Ode to the Cuckoo*. See Anderson's *Life of Logan*, 1795, and *British and Foreign Evangelical Review*, 1877 and 1879.

Logan, John Alexander (1826-86), an American soldier and politician, born in Jackson co., Illinois. served as a volunteer in the Mexi· War, graduated in law from Louisville University (1851), and s cessfully practised as a lawyer. He entered politics as a Douglas democrat, and was member of the state legislature in 1852-53 and 1856-57. In 1858 and 1860 he was a Democrat member of Congress. At the outbreak of the Civil War he entered the Union army and commanded with distinction. At the close of the war he re-entered Congress as a Republican (1866), and was a member of the United States Senate from 1871-77, and again in 1879-86. He was defeated in his candidature for the vice-presidency in 1884. He was the author of *The Great Conspiracy*, 1886, and *The Volunteer Soldier of America*, 1886. See *Life* by Dawson.

Logan, Sir William Edmond (1798-1875), a Canadian geologist, born at Montreal. About 1828 he was sent to Swansea to take charge of the accounts of a pany, and while geological maps S. Wales. From 1842-71, he was director of the Canadian Geological Survey. He discovered the Stigmaria under-clays and the *Eozoon canadense*. He was knighted in 1856. His *Geology of Canada* was published in 1863. See *Life* by Harrington, 1883.

Loganberry, a cross between the raspberry and the blackberry, originally raised by Judge Logan in California. The fruit resembles the raspberry in character, but is larger, darker coloured, and more prolific. Its core remains in the fruit when the stalk is removed, as in the blackberry. Its flavour is sharper and more acid than the raspberry. The cultivation of Ls. is rapidly extending; the chief use of the fruit is for bottling and preserving. The plant is hardy and easily grown.

Logan, Mount, in the S.W. corner of the Yukon territory, Canada. The second highest known peak in N. America with an altitude of 19,514 ft.

Logansport, a city of Indiana, U.S.A., in Cass co., on the Wabash R., 68 m. N.W. of Indianapolis. Limestone is quarried for use in the iron manuf. It is a market for grain, etc., and has abundant water power. Pop. (1910) 19,050.

Logan Stone, The (Cornwall), *see* ROCKING STONES.

Logarithms, a series of numbers standing in a certain relation to the series of natural numbers and enabling many arithmetical processes to be simplified; in particular multipli-

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the nature of L. clear. Taking the number 2 as a *base* we may write its *powers* thus:

	2^0	2^1	2^2	2^3	2^4	2^5	2^6	2^7	. . .
or	1	2	4	8	16	32	64	128	. . .

In the upper row the indices (smaller numbers) denote the number of times 2 is contained as a multiple in the corresponding number below; *e.g.* $16 = 2 \times 2 \times 2 \times 2$. The relation will now be understood when we say that $2^6 = 64$ may be expressed: the L. of 64 to the base 2 is 6. In other words, the indices are the L. of the corre-

sponding numbers below for the selected base 2. The following processes may now be verified:

$8 \times 16 = 128$; $\log 8 + \log 16 = 3 + 4 = 7 = \log 128$.

$64 \div 8 = 8$; $\log 64 - \log 8 = 6 - 3 = 3 = \log 8$.

$4^3 = 64$; $\log 4 / 3 = 2 \times 3 = 6 = \log 64$.

$\sqrt[2]{64} = 8$; $\log 64 \div 2 = 6 \div 2 = 3 = \log 8$.

It is clear that if the system is to be of practical use, the natural series of numbers must be completely represented; in the above case we must know the L. for 3, 5, 6, 9, 10, 11, etc. The calculation of these is intricate and laborious. The number 2 as a base or *radix*, however, is not used; our system of natural numbers being a decimal one, 10 is the most convenient base.

John Napier, Baron Merchistoun, was the inventor of L., and published his first work in 1614. Trigonometrical calculations had become unwieldy, and his work was the result of need for simplicity. It has increased almost infinitely the range of practical mathematics. Napierian L. were calculated for functions of angles only; Speidall (1619) improved the system and added the L. of natural numbers. They are now known as the natural Napierian or hyperbolic L., and are used in pure mathematics. In 1615 John Briggs commenced the calculation of L. to the base 10. These have been continued, and are used in all practical calculations. In this system the L. of 10 is 1; 100, 2; 1000, 3; and so on, the numbers in between 10 and 100 having logs. 1 + a decimal fraction; between 100 and 1000, 2 + a decimal fraction. The integral part is known as the *characteristic*, the decimal part as the *mantissa*. Log 1 is 0. Numbers less than 1 have negative L. Numbers composed of the same succession of digits have the same mantissa, the characteristic only varying with the position of the decimal point. By a simple device the mantissa for numbers less than unity is kept positive, the characteristic, negative, thus shortening tables and facilitating reference. Napier's base or radix was a mathematical series where 2·7182818 . . . etc., was expressed by the letter *e*. From the Napierian L. the common L. (base 10) can be calculated, by multiplying them by $\log_{10} e$ or $\frac{1}{\log_e 10}$, which is called the modulus and = 0·43429448 . . . etc.

Calculation of logarithms.—Log 2 and log 3 being found, logs 4, 6, 8, 9, 12, etc., are easily added, for

$4 = 2^2$ ∴ $\log 4 = 2 \log 2$.
$8 = 2^3$ ∴ $\log 8 = 3 \log 2$.
$6 = 3 \times 2$ ∴ $\log 6 = \log 3 + \log 2$.

The separate L. need only be calculated for primi numbers (*see* ordinary works on Algebra).

Use of logarithmic tables.—Directions will be found prefixed to books of the tables and in most elementary works on Algebra and trigonometry. The tables mostly used in England are those published by Messrs. W. & R. Chambers, based on Hutton's calculations, and are seven-figure tables. Many four-figure tables are published: these are sufficient for many practical calculations in engineering and mechanical science where figures obtained are at best approximate. An interesting development has been the construction of simple machines for mechanically performing the calculations; the ordinary *slide rule*, much used by engineers, is divided into logarithmetic division, the sliding performing addition and subtraction.

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produced tables, by means of his calculating machine, which are considered to be extremely accurate.

Logau, Friedrich Freiherr von (1604-55), a German poet, born at Nassebrockut in Silesia. He studied law at Brieg and Frankfurt, and entered the legal service of the Duchy of Liegnitz as chancery councillor. He is chiefly famous as a writer of epigrams. He joined the 'Frucht-bringende Gesellschaft,' the most important of German literary

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lection of epigrams, *Zweyhundert teutscher Reimsprüche* (1638). A selection from his *Sinngedichte* was made by Ramler and Lessing in 1759, and a complete edition of his works by Eitner in 1872.

Log-book, a book into which the contents of the log-board or rough L. are transcribed daily. The columns of the L. make provision for the nature and velocity of the wind, the state of the weather, the observed latitude and longitude, the course, progress, etc. Under the heading 'Remarks,' are entered the employment of the crew, the times of passing

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The deck L. is kept by the officer of the watch, is copied into the ship's L. which is the official L., by the navi-

gating officer in charge, and is then initialed by the officer on watch. In steam vessels, rough and fair engine room registers are kept, giving information as to the state of the engines, etc. All ships in the British Mercantile Marine are compelled to keep an official L. in a form approved by the Board of Trade, unless they are employed only between ports on the coast of Scotland. The mate's L. and the engine-room register are also usually kept, though it is not compulsory so to do.

Loggan, David (1635-93), an engraver and designer, born at Dantzig. He settled in London and published *Engravings of the Colleges of Oxford*, and later similar engravings of the colleges of Cambridge. At the court of Charles II. he engraved several portraits of the king and of his courtiers.

Loggia, the Italian name for an arcade composed of galleries and verandahs roofed over, but open to the air on one side.

Logia (Gk. λογια, oracles). Papias, a writer of the 2nd century, who is said to have been a disciple of St. John, wrote that 'Matthew composed the oracles (λογια) of the Lord in the Hebrew tongue.' It has been one of the tasks of modern biblical criticism to find out what these L. were. That they were the Gospel as we at present have it is impossible, for it is certain that our St. Matthew [illegible] o Aramaic. they were rmons and bable sug- collection rew Bible, f a Messianic interpretation. Such collections must have been made by the early Christians, who aimed particularly at showing how Jesus fulfilled the Messianic prophecies. It is notable that St. Matthew's Gospel is marked by its insistence on this.

Logic, *see* METAPHYSICS.

Logogram, a form of puzzle, of the nature of a complicated anagram (*q.v.*). The unraveller, instead of being required to form a single new word or sentence out of the old by transposing the letters, has to discover all the words that may be extracted from the whole or any portion of the letters, and then using their synonyms. The puzzle consists in the discovering of the hidden words, and then of the primary word from which they have all been obtained. *See* ANAGRAM; *also* Wheatley's *Anagrams* 1862.

Logos (Gk. λόγος, word or reason), in theology, a term first applied by the Greek philosophers to an emanation from the Supreme God by which the Godhead was manifested. In time the L. became personified, and in the Jewish Alexandrine school, of which Philo is the greatest representative, the L. is equivalent to the Divine Wisdom. The author of the Fourth Gospel boldly took possession of this mode of expression, and identified the L. with Christ Ἐν ἀρχῇ ἦν ὁλόγος. The early process of personification is seen far developed in the Apocryphal Book of Wisdom, which is a product of the Alexandrian school.

Logrono: 1. An inland prov. of Northern Spain, S. of the R. Ebro. The Ebro basin is very fertile, producing cereals, olive-oil, fruit, and the noted red Rioja wines. Iron, silver, lead, copper, and lignite are found. Area 1946 sq. m. Pop. 188,480. 2. (Ancient *Lucronius*). Cap. of the above, an ancient walled tn. with a twelve-arched bridge across the Ebro dating from 1138. It is on the r. b. of the Ebro, 30 m. S.S.E. of Vitoria, in the centre of the wine district. Pop. 19,237.

Loharu, a native state in the S.E. of the Punjab, India. Area 222 sq. m. Pop. 15,229. The capital is Loharu. Pop. 2175.

Lohengrin, the hero of an old High German poem of the 13th century. He was the son of Parsifal and one of the knights of the Holy Grail. At King Arthur's command he was carried to Mainz in a car drawn by a swan to rescue Elsa, daughter of the Duke of Brabant. He overthrew her enemy, Telramund, and married Elsa. In spite of her promise not to question him she insisted on demanding his origin. Twice he persuaded her not to question him, but on her asking a third time he told her and immediately was carried away by the swan-drawn car to return to the Grail. Rucker's edition of the poem (1857) is the best. It is a continuation of Wolfram von Eschenbach's *Parzival*. Wagner founded his opera *Lohengrin* (1848) on this legend.

Loigny, a vil. in the dept. of Eure-et-Loir, France, 29 m. S.S.E. of Chartres. The Germans were here defeated by the French in Dec. 1870.

Loir, Nicolas Pierre (1624-79), a French painter, born in Paris. He modelled his style on that of Poussin but without losing individuality. He was admitted into the Academy of Painting in 1663, and executed a number of paintings in the Tuileries, as well as numerous portraits and engravings. His best works are: 'Ste. Thérèse,' 'Saint Paul before the proconsul Sergius,' 'Painting and Sculpture discovered by Time.'

Loire: 1. The longest riv. in France, rises in the Gerbier-de-Jonc (dept. Ardèche) at a height of 4500 ft., and flows N. and N.W., S.W., and finally W. for a total distance of 625 m., until it flows into the Bay of Biscay between Paimbœuf and St. Nazaire. Its chief tributaries are the Allier, Cher, Indre, Vienne, Thouet, and Sèvre Nantaise on the l. b., and the Arroux and Maine on the r. b. Navigation of the L. is difficult owing to the shrinking of the stream in times of drought and the frequent floods at other times. Dykes have been erected at several places, the most important being the circular dyke at Tours. The Maritime Canal of the L. (9¼ m. long), opened in 1892, enables large ships to ascend to Nantes. The 'lateral canal of the Loire' accompanies the river from Roanne to Briare and thence proceeds to the Seine. 2. A dept. of Central France formed from the old dist. of Forez and parts of Beaujolais and Lyonnais, is bounded on the N. by the dept. of Saône-et-Loire, and S. by Ardèche and Haute-Loire. It is drained in the N. by the Loire and its tributaries, and in the S.E. by the tributaries of the Rhône. The department is largely mountainous, but the plains of Forez and Roanne provide good agricultural and pasture lands. The vine is grown in the valley of the Rhône. The basin of the St. Etienne is one of the richest coal districts of France, and iron and lead are mined in large quantities. The chief manufs. are glass, ribbons, silk, cast steel, hardware, machinery, and cutlery. Cap. St. Etienne. Area 1853 sq. m. Pop. 640,549.

Loire, Haute-, *see* HAUTE-LOIRE.

Loire-Inférieure, a maritime dept. of Western France, formed from part of ancient Brittany and the district of Retz, and lying between the Bay of Biscay on the W. and Maine-et-Loire on the E. The surface is very flat, and is drained by the Loire with its tributaries, the Erdre and the Sèvre, and the Isac, a tributary of the Vilaine. The refining of the salt from the marshes between the Vilaine and the Loire is an important industry. Horse and cattle breeding prospers, and cereals, vines, flax, and fruit are cultivated. There are deposits of tin, lead, and iron. There are foundries and shipbuilding yards at Nantes and St. Nazaire. The chief manufs. are hemp, linen, paper, sugar, and soap. The capital is Nantes. Area 2694 sq. m. Pop. 669,920.

Loiret, a dept. of Central France, formed from the ancient prov. of Orléanais, with parts of Ile-de-France and Berry, and lying S.W. of Seine-et-Marne, W. of Yonne, and N.E. of Loir-et-Cher. The Loire valley in the S. of the department, in spite of the frequent floods, is famed for its fertility and vineyards. A great part of the surface is covered by forests, but the plateau of Orleans is very fertile. All branches of agriculture form the chief industries. The chief manufs. are bricks and tiles, porcelain, leather, machinery, hosiery, sugar. Cap. Orleans. Area 2629 sq. m. Pop. 364,061.

Loir-et-Cher, a dept. of Central France, formed from portions of Orléanais and Touraine, and bounded on the N. by Eure-et-Loir, on the S. by Indre. It is drained by the Loir in the N., the Loire in the centre, and the Cher in the S. A large part of the surface is covered by forests, but in the river basins there are rich agricultural districts, wheat and oats being largely cultivated. There are rich pasture lands, and fruit and vines grow well. Cloth and other woollens, gloves, leather, and glass are manufactured, and there are large distilleries. Cap. Blois. Area 2478 sq. m. Pop. 271,231.

Loja, or **Loxa**, the cap. of a prov. of the same name in the republic of Ecuador. Cinchona bark is obtained in the neighbourhood. Area of prov. 7000 sq. m. Pop. of tn. 10,000; of prov. 67,000.

Loja, a city in the prov. of Granada, Southern Spain, in a beautiful valley traversed by the R. Genil. Salt is found in the neighbourhood, and there are manufs. of woollens, silk, paper, and leather. It was one of the last Moorish strongholds. Pop. 20,000.

Lokeren, a tn. of Belgium in the prov. of E. Flanders, 12 m. N.E. of Ghent. There are manufs. of wool and cotton, also chemicals. Pop. 22,000.

Loki, the 'spirit of evil' in Scandinavian mythology, corresponding with Mephistopheles. Although really of the race of giants, he was always counted among the Æsas, and was possessed of great physical beauties, and extraordinary cunning with which he deceived and perplexed the other deities. For the story of his jealousy and murder of Balder, *see under* BALDER.

Lokman, surnamed 'The Wise,' a legendary sovereign of pre-Islamic Arabia, to whom is attributed the construction of the famous dike of Mareb. Legend says that in reward for his virtues he was given the life of seven vultures and ruled for a thousand years. Another L., the reputed author of the *Fables of Lokman*, is variously described as an Abyssinian slave of David's time, and a cousin of Job, but he is most

generally identified with the Balaam of the Scriptures, the Hebrew *bala* and the Arabic *lakam*, both signifying 'the devourer.' The fables, proverbs, [illegible] to him are now [illegible] o be of Chris- Derenbourg's *Fables de Logmân le Sage* (1850), and *The Thousand Nights and a Night* (ed. by Lady Burton).

Lokoja, a tn. of Northern Nigeria, Africa, near the junction of the rivers Niger and Benue. Pop. 10,000.

Lollards, The (from Dutch *lollaerd*, a mumbler, mutterer, from *lollen*, to mutter), a name applied at the end of the 14th century to the followers of Wyclif and others who shared his tenets. The movement was, to a large extent, independent of Wyclif. All over the country there was discontent with the ecclesiastical and civil order. Wyclif represents this discontent among the learned, and there is no doubt that his individualistic views were spread far and wide by his 'poor priests,' whose lives and preaching compared favourably with those of the friars. But many had already come to similar conclusions on their own initiative. The L. underwent much persecution, the chief statute against them being the *De Heretico Comburendo* in 1400, under which many were burnt. Lollardism was forced beneath the surface, but did not die out, even after the death of Sir John Oldcastle under Henry V., but remained to give impetus to the Reformation. Many took in hand to reason against Lollardism, but the only successful writer was Bishop Reginald Pecock (*q.v.*).

Lolos, or Nesus, the Chinese name for an aboriginal tribe which inhabits the mountainous country called Taliang-shan, which lies between the Yangtse-kiang, and the Chien-chang valley. Their language is monosyllabic, and, although the characters bear a certain general likeness, is quite distinct from Chinese, as are their features and customs. They are mostly under Chinese rule. *See* A. Hosie, *Three Years in Western China*, 1897, and A. F. Legendre, *Les Lolos*, 1909.

Lombard, Lambert (1506–60), a Flemish painter, engraver, and artist. He was also known by the names of Lamprecht Susterman, Suavius, and Schwab.

Lombard, Peter (c. 1100–c. 1160), an Italian theologian, born at Novara in Lombardy. He is often referred to as 'magister Sententiarum' because of his famous *Sentences*. These are divided into four books, dealing with the Trinity, Creation, Incarnation, and the Sacraments, and were designed to settle doctrinal disputes once and for all by reference always to the scriptural texts. They became after his death the accepted manual of theology.

Lombardic Architecture, a style developed in the N. of Italy by the Lombards after the Gothic invasion, when Goths and natives had fused into one race. Its rise dates from the time of Charlemagne, and a few monuments remain from the 8th century. But the great architectural period was the 11th and 12th centuries. To the early part of this belongs the church of St. Antonio at Piacenza, dedicated in 1014. A later example is the cathedral of Novara, and later still we may note St. Michele at Pavia. St. Ambrogio at Milan is also Lombardic. L. A. is based primarily on Roman tradition, though in detail it discards the debased forms of the later empire in favour of Byzantine importations. The W. end is generally very poor, and the best view is that of the E. end.

Lombards, *see* LONGOBARDS.

Lombards, The, a class of Italian merchants, brokers, and bankers who settled in England from the 13th to the 16th century. It is certain that all did not come from Lombardy, yet it is likely that the enterprise and intelligence they displayed was in large measure due to the fusion of Longobard or Lombard blood with the indigenous Italian. In 1338 Edward III. pledged his jewels to the Lombards in order to raise money for his French wars, and Henry V. did likewise in 1415. In that they were usurers and pawnbrokers they were unpopular like the Jews, who, until their expulsion in 1290, had largely controlled those occupations. The Lombards first arrived in England in the reign of Henry III. (1216-72), and were formally banished by Queen Elizabeth. But prior to her reign English merchants had already largely usurped their functions. It is related that Edward II. handed over as much as £56,000 to the Frescobaldi in payment of his father's debts, whilst the wealthy firms of the Peruzzi and Bardi—the leading Lombards of the day—were actually ruined by Edward III, who was never able to redeem his pledges. Lombard Street in the city of London—often [illegible] etro- rmer

Lombardy, a division of Northern Italy, bounded on the N. by the Alps, on the E. by Venetia, on the S. by Emilia, and westward by Piedmont. It includes part or whole of lakes Maggiore, Lugano, Como, Garda, Iseo, and Varese, and is drained by the Po, which is a southern frontier, and the Ticino—a tributary of that

river flowing along the western boundary. The highlands are devoted to pastures, the lower slopes to chestnuts, etc., vines, and silk culture, and the fertile plains to mulberries, maize, wheat, flax, and rice. Milan, the chief railway centre of the country, is also the most flourishing silk market in the world, whilst silk-weaving is the main industry of Como. Lombardy is divided into the provinces of Bergamo, Brescia, Como, Cremona, Mantua, Milan, Pavia, and Sondrio. Area 9297 sq. m. Pop. 4,786,907.

Lombok, called also Selaparan, an island of the Malay Archipelago, Dutch East Indies, situated eastward of Java between lat. 8° 12′ and 9° 1′ S., and long. 115° 46′ and 116° 40′ E.; it is separated W. from Bali by Lombok Strait, and E. from Sumbawa by the Strait of Alas. The area is 3136 sq. m. Two mountain chains extend along the N. and S. coasts, the former being volcanic. Between the ranges are well-watered fertile plains, where sugar, coffee, maize, indigo, cotton, and tobacco are cultivated. The capital is Mataram, and the chief port Ampanam, situated on the W. coast. Pop. 400,000.

Lombroso, Cesare (1836-1909), a criminologist and professor of forensic medicine; later professor of criminal anthropology at Turin, born at Verona, and died at Turin. In 1862, before holding the above positions, was professor of psychiatry at Pavia, and then director of the Pesaro lunatic asylum. The name of this celebrated Italian anthropologist is mainly associated with theories relative to the responsibility or irresponsibility of criminals and as incidental thereto, with theories as to the physical and psychical characteristics that go to form the criminal type. For a general criticism of his theory of the evidence of a criminal type see under CRIMINOLOGY. In his last years he took up the subject of spiritualism. Chief works: *L'Uomo delinquente*, 1889; *La Pellagra in Italia*, 1885; *L'Uomo di genio*, 1888; *La Donna Delinquente*, 1893; *Delitti vecchi e delitti nuovi*, 1902; *Nuovi studi sul genio*, 1902; *After Death—What?* 1909.

Lomond, Loch, the largest lake in Scotland, situated in the counties of Stirling and Dumbarton. Its length is 23 m., and it varies in width from 5 m. to ½ m.; its area is 27 sq. m. It contains thirty islands, of which the largest is Inchmurrin. Mountains and valleys encircle the lake, and from these numerous streams fall to its banks. A service of pleasure steamers in summer ply upon its waters.

Lomonosov, Michael Vasilievich (1711-65), a Russian poet and scientist, was the son of a fisherman in Archangel, and having with the aid of a priest, fruitfully employed the tedious Arctic winters in study, journeyed at length to Moscow in a cart laden with frozen fish. There, and afterwards at St. Petersburg and Freiburg, he studied chemistry, physics, and especially mineralogy and mining. He wrote numerous scientific treatises, but his excellent Russian grammar, his poems, which are ever animated with the force of a fine character and a stirring patriotism, and his writings on history and astronomy indicate that his versatile and powerful intellect embraced a far wider field than that of his academic pursuits.

Lom-Palanka, a tn. of Bulgaria, and the cap. of the prov. of Lom-Palanka. It is situated on the Danube, and is one of the chief river ports. Pop. 8000.

Lomza, or Lomzha, a prov. of Russian Poland, bounded N. by Prussia, E. by Grodno, S. by Warsaw, and Siedlce, and W. by Plock. It has an area of 4072 sq. m., and is generally flat and marshy. It is watered by the Narev and the Bug. The crops are wheat, oats, rye, barley, potatoes, flax, etc.; poultry and bee-keeping are important industries, and there are manufactures of leather, sugar, tobacco, pottery, wooden ware, etc. The capital is Lomza, an old fortified town on the Narev. Pop. of province 683,600.

Lonato, a walled tn. of Italy, in Lombardy, situated in the prov. of Brescia, and 14 m. E.S.E. therefrom. It is noted in history for a victory gained by Napoleon over the Austrians in 1796. Pop. 7000.

Lonchopteris, a genus of spear-shaped fossil ferns which are often found in British coal measures.

Lonchura, a genus of passerine birds, belong to the Fringillidæ, or finch family. There are about twelve species, which range over India and the neighbouring islands. They are characterised by strong, short beaks and plumage varying from grey to bright orange or scarlet.

London.

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don of history, occupies only 638 acres, scarcely 1 sq. m., in the centre of the huge area which is now popularly known as London. The old walled city has been swamped by the younger suburbs which have grown up all round it. It still lives as an administrative unit, with a civic constitution which would still

seem familiar to a man of the middle ages. The resident population of the City was 19,657 at the census of 1911. (2) The modern administrative County of London includes the City and the surrounding district of 116¾ sq. m. (74,816 acres) with a population of 4,522,961 inhabitants. The district is under the local government of the London County Council; and it is the area which, perhaps, most nearly approximates to the ordinary meaning of the term London. (3) But there is a still wider use of the term, the 'greater' London which is practically the Metropolitan Police District, together with the City of London, which roughly includes all parishes within 15 m. of Charing Cross, and therefore comprises the county of Middlesex and parts of the counties of Hertfordshire, Essex, Kent, and Surrey. This greater London has an area of 692¾ sq. m. (443,424 acres), with a population in 1911 of 7,252,963. This area at the present moment contains what are in fact still rural districts; but the growth of the suburbs is rapidly making the smaller London County Council area an illogical definition of the term. (4) There are still other definitions of London; but the above are the main significations of the word.

Government.—(1) The chief local governing body in the L. area is the London County Council, controlling the first and second of the districts described above. It was created by the Local Government Act, 1888. The Council consists of 118 county councillors, elected (in pairs, except the City of L. which has 4 councillors) in 58 divisions. The elections take place every three years; the electors being the county and parochial electors. There are now about 800,000 electors on the registers. The councillors may elect 19 aldermen for six years; and also a chairman for a term of one year. The enormous powers of the London County Council can only be briefly suggested here. The total assessable value of the area in 1912 was £44,818,697, on which the Council raised in total rates over £7,000,000 for use in its various activities. With other sources, its total receipts in that year amounted to £11,831,879. Over half this amount is spent on education, both elementary and higher. The Council has borrowed about £40,000,000 for financially unremunerative services, besides over £12,000,000 for the development of undertakings which will produce revenue. The Council owns about 146 m. out of the total 400 m. of tramways within the greater L. Its other important functions, besides the provision of education and tramway services, are the provision and control of working-class dwellings, open spaces and parks, fire brigades, sewers, etc., besides large grants to the Guardians of the Poor, and extensive public-health work. (2) By the London Government Act, 1899, the older vestries and other bodies were abolished in the L. area, and their place was taken by 28 metropolitan boroughs: Battersea, Bermondsey, Bethnal Green, Camberwell, Chelsea, Deptford, Finsbury, Fulham, Greenwich, Hackney, Hammersmith, Hampstead, Holborn, Islington, Kennington, Lambeth, Lewisham, Paddington, Poplar, St. [illegible] ras, Shoreditch, Stoke Newing- estminster, and ames are given their present administrative importance, they represent, also, the most important of the ancient divisions of the area of L., as we shall see later. Each of these boroughs is governed by a council of from 30 to 60 councillors who appoint aldermen up to one-sixth of their own number; and they also choose a mayor. The councillors are elected by the persons whose names are on the parliamentary and local government registers; and the elections take place every three years. The chief functions of the borough councils are to perform the duties of a public health and high- [illegible] libraries, baths, and washhouses, etc. The so-called Municipal Reformers at present hold an overwhelming majority on the borough councils, as a whole, viz. 1002 councillors as against the 360 councillors representing all other parties. (3) Considered as general, the City of L., except for a few London County Council powers, is an isolated self-governing and independent unit of L. Thus it has its own police, quite independent of the metropolitan police, and its own courts of law. The City of L. is governed by a council which is a survival from mediæval times. With this council is closely bound up a great part of the history of L. For the moment we will describe it in its present form. The City is a corporation styled 'th [illegible] and citizens.' [illegible] are composed as follows: (a) The Court of Aldermen consists of 26 aldermen, each elected for life by the householders of one of the 26 wards into which the City has been divided almost throughout history. The primary function of the aldermen is

to act as justices of the peace for the City. (*b*) The Court of Common Council consists of the above aldermen; and also 206 common councillors, elected annually by the wards on St. Thomas's Day (Dec. 21). The electors (*see* Acts of Paliament, 11 Geo. I., c. 18 (1724), and 12 and 13 Vict. c. 94 (1849) are the rated householders of the wards, who need not be freemen, or 'citizens' of the City. The Common Council is the legislative body of the corporation, and the controller of the finances and property of the City. The Council does its work in the form of many committees appointed for the various parts of the administration, *e.g.* the Library Committee, the City Lands Committee, the Markets Committee, etc. There are about thirty committees in all. The Court of Common Council is thus the chief executive and legislative body in the City. It also elects the town clerk, the City Remembrancer, the City coroner and the under-sheriff. (*c*) The Court of Common Hall, the third of the main courts, is composed of the Lord Mayor, the sheriffs, the aldermen, and the liverymen of the City Companies. The Court of Common Hall only meets twice each year; its main business is to elect the sheriffs and City Chamberlain, and a few other officials; and also to nominate two aldermen, from whom the Court of Aldermen chooses one as Lord Mayor. The rateable value of the City is about £5,600,000. The markets of Billingsgate, Leadenhall, Islington (Metropolitan), Smithfield (London Central Markets), etc., are under the control of the City corporation; which derives a yearly income therefrom of almost £260,000, balanced by an expenditure of £230,000. The Smithfield markets are by far the largest of these. The City had a total revenue from rates, rents, markets, etc., of over £1,285,000; with an expenditure of about the same amount, mainly used in the maintenance of the markets, the police, the roads. Besides the revenue from the markets mentioned above, the City possesses valuable general estates with a gross revenue of about £482,000; the balance of expenditure required being raised by rates which amount to about £170,000 total per year. There is a long list of highly paid officials of doubtful general public utility. The whole City corporation is a survival from the middle ages endeavouring to function under modern conditions. But the most interesting survivals in the City of L. are the livery companies, the remains of the mediæval system of organising trade and industry under the control of guilds or companies of privileged tradesmen or craftsmen. There are about eighty of these companies still existing, in more or less archaic form, in the City of L. They possess a total membership of about 8000 liverymen, who, we have seen, form the larger part of the Court of Common Hall. The first twelve of these guilds are termed the Great Companies, which are: Mercers, Grocers, Drapers, Fishmongers, Goldsmiths, Skinners, Merchant Taylors, Haberdashers, Salters. Ironmongers, Vintners, and Clothworkers. The majority of these are possessed of valuable estates; thus the Mercers have a corporate income of £48,000 a year, besides administering a trust income of £35,000 a year; the grocers have a corporate income of £50,000, and a trust income of £28,000. The total property of all the Livery Companies is said to be about £15,000,000, producing an income of about £800,000 a year. The wealthiest of the lesser companies are the Leathersellers, the Carpenters, and the Brewers, though the property of the latter is mainly in the form of trusts. The halls of the companies, in some cases are of great interest, and will be mentioned in the section on topography. Once the chief factor in L., both as trustees and governors, the livery companies have now become close private corporations of little direct control over public affairs, but nevertheless powerful by reason of their historical reputation and their wealth. Their trading rights and duties are mainly nominal, though in some cases, *e.g.* the Apothecaries' Company and the Stationers', they are still, to some extent, in active existence.

We have now glanced at the three main local governing bodies in the L. area. There are lesser bodies of various kinds, not only of intrinsic importance, but also worthy of notice as illustrating the affairs of L. The most noteworthy are the following: (1) The Metropolitan Police, which, we have seen, are in police control over the whole area of greater L., except the City, which has its own private force. The Metropolitan Police number about 20,000 men, under the control of a commissioner who is appointed by the Home Secretary, and is entirely under his orders. It is thus the instrument of the central government, of which the Home Secretary is but one member. The total yearly cost in salaries of the police amounts to about £1,800,000, and is mainly met by a rate of almost sixpence in the pound. (2) The Metropolitan Water Board was constituted by the Act of 1902 to take over and control eight

hitherto private and separate London Water Companies, and two urban district council supplies. The Board is composed of 66 members, 30 of whom are elected by the borough councils, 14 by the London County Council, and the rest by the other local governing bodies of the area. The yearly receipts of the Board amount to almost £3,000,000, but the present expenditure is slightly greater. The previous shareholders were mainly paid by the issue of 3 per cent. stock. The population supplied is over 7,000,000 persons, and the area supplied is about 537 sq. m., which to a large extent coincides with the area of greater L. as defined above. The water supplied amounts to about 230,000,000 gallons a day, which is drawn from the rivers Thames and Lea and the New River, and the rest from springs and wells. The charges are uniform over the whole area; 5 per cent. on the rateable value of the house for domestic purposes. There is in storage enough water to last for about forty days. (3) The Port of London Authority is another attempt to place private trading under popular control. It was established by the Port of London Act, 1908, to take over the chief L. docks (*i.e.* the L. and India docks, the Surrey Commercial docks, and the Millwall docks, which were bought at the price of £22,800,000. The authority has planned new docks which are estimated to cost £14,000,000. The expenses are met by the present revenue of almost £3,000,000 from tonnage dues, port rates, river tolls, etc. It was estimated that there was a net income of £800,000 from the above three dock companies bought under the Act. The power to levy port rates on goods was first given by the Act, whereas the power to collect dock rates on goods already existed in the time of the private dock companies. The authority is constituted as follows: Eighteen members are elected by the traders using the docks, one by the Admiralty, four by the London County Council, two by the Board of Trade, two by the City of L., and one by Trinity House. These members are elected for a term of three years. Their authority extends from Teddington to the Isle of Sheppy, on both sides of the river, including all islands, rivers, creeks, channels, harbours, docks, etc., within those limits. But the City corporation still retains its powers as port sanitary authority, and Trinity House retains its powers as to pilotage, lighting, and buoying. The powers of the Conservancy of the R. Thames are now restricted to the river above Teddington, extending to Cricklade in Wiltshire. (4) The Metropolitan Asylums Board is an offshoot from the Metropolitan Boards of Guardians, by whom the majority of the members are elected, while the Local Government Board can nominate members up to one-third of the elected members. The function of the board is somewhat illogical, for its duty is to provide hospitals for fever and small-pox, etc., patients within the area, whether paupers or not; a duty which would be more logically undertaken by the public health authorities. The board also provides asylums for pauper imbeciles. (The non-pauper asylums at Hanwell, Colney Hatch, Banstead, Canehill, Claybury, Bexley, Horton, Epsom, and Ewell are under the London County Council.) (5) The Boards of Guardians: there are thirty-one of these within the London County Council area administering the Poor Law services. They are to a certain extent linked together by the Common Poor Fund which has existed since 1867: the fund is provided by contributions (assessed by the Local Government Board) paid by the richer parishes, and used over the whole area for various common pur-

on these 31 boards. Their expenditure is about £4,000,000 a year; an average of £27 4*s.* 8½*d.* per pauper relieved (as against £14 18*s.* 10½*d.* outside London). Rather over £1,000,000 of this is raised directly by rates; and about £1,600,000 comes from the Common Poor Fund. (6) The Central (Unemployed) Body for L., appointed under the Act of 1904, is composed of 74 members selected by the London County Council and the distress bodies of the metropolitan borough councils, with 4 members nominated by the Local Government Board. Its function is to assist in finding work for the unemployed. It is not a very successful body, at the best, merely playing with a vital problem of society. (7) The London Fire Brigade is now under the control of the London County Council, but is worth mentioning as partly an independent body. It is maintained at a total cost of almost £350,000; of which the fire insurance companies paid £38,000, the central government £10,000, leaving the bulk of the balance to come out of the rates. There are about 1400 officers and men attached to about 85 fire stations; and serving the area of 117 sq. m. contained within the London County Council boundaries. In the year ending 1911

there were about 4500 fires, only 65 of which were officially termed 'serious.' (8) The Central Criminal Court is the chief criminal court of L., sitting at the Old Bailey, and acting as the assize court for the L. area. The Lord Mayor and aldermen and the Recorder and Common Serjeant of the City, theoretically at least, act as judges, beside the justices of the High Court. In practice, the Recorder and Common Serjeant try the less important cases, and the more serious charges are heard before a justice of the High Court. Its jurisdiction covers an area of 265,000 acres, which does not coincide, however, with the Metropolitan Police district or any county divisions. It is another example of the muddle which so often results from the interference of the legal mind. It embraces the whole of the counties of Middlesex and L., and the City, besides parts of Essex, Surrey, and Kent. (9) The Metropolitan Police Courts. There are 14 of these, presided over by 26 magistrates appointed by the crown, who have each the powers of any two justices of the peace, or to inquire into indictable offences. In other words they take the place of the ordinary non-professional justice in other areas, except that they cannot sit at quarter sessions. Their united jurisdiction covers the whole county of L., except a part of Hampstead; and that practically coincides with the London County Council area; except that the City of L. is outside their jurisdiction, and has two police courts (the Mansion House and the Guildhall) of its own, presided over by the Lord Mayor or one of the aldermen in rotation. (10) London University is a body of somewhat complex character (which has recently been the subject of a royal commission which has just reported). It received its charter in 1836 as a non-resident university, which granted degrees by examination of students who were free to acquire their education where they pleased. By the Act of 1898 it was provided that it shall become a teaching university also, and as a result it has taken over University and King's colleges, the King's College for Women (a part of the original college), the Goldsmith College. Besides these constituent colleges, it also directly maintains the Frances Galton Laboratory for Natural Eugenics; the Brown Animal Sanatory Institution; and the Physiological Laboratory at S. Kensington. Beyond these constituent parts of the University, there are the following 'Schools of the University,' the teachers of which the University recognises as possessing university rank; and the students of which it recognises as 'internal' students: East London College (Mile End Road, E.); Royal Holloway College (Englefield Green); Bedford College for Women (Baker Street); Westfield College (Hampstead); London Day Training College (Southampton Row); Imperial College of Science and Technicology (Imperial Institute, S. Kensington), comprising Royal College of Science, Royal School of Mines, and the City and Guilds (Engineering) College; South-Eastern Agricultural College (Wye, Kent); London School of Economics (Clare Market, Kingsway); New College (Hampstead); Hackney College (Hampstead); Regent's Park College (N.W.); King's College (Strand, W.C.); Wesleyan College (Richmond); the medical schools of the following hospitals: St. Bartholomew's (Smithfield), Guy's (Borough), St. Thomas's (Albert Embankment), London (Whitechapel Road), Middlesex (Mortimer Street, W.), St. George's (Hyde Park Corner), Charing Cross (Agar Street, Strand), St. Mary's (Praed Street, W.), Westminster (by the Abbey), King's (now removing to Denmark Hill from Lincoln's Inn Fields), University College (Gower Street, W.C.), London (Royal Free Hospital) School of Medicine for Women (Brunswick Sq., W.C.), London School of Tropical Medicine (Albert Dock, E.), Lister Institute of Preventive Medicine (Chelsea Bridge Road, S.W.), and the Royal Army Medical College (Grosvenor Road, S.W.). The University of L. is governed by a senate formed of a chancellor and 54 members, 4 of these being appointed by the crown in council, 16 by the convocation (the doctors and proctors) of the university, 16 by the faculties of teachers, and the rest by various public institutions.

The above are the chief official bodies and councils which control L. in their respective ways. But there is an unofficial body which has perhaps as much influence as all the rest, although it has no charter or other formal recognition by the legislature. This very powerful body is composed of the landowners of L. A census of these was taken by the London County Council, from which it appears that the area of the council's jurisdiction (117 sq. m.) is now owned by about 34,600 landlords; the largest being the collective bodies or institutions of the crown, the Ecclesiastical Commissioners, the London County Council, and the Corporation of the City; all these together possessing about 19 sq. m. There are then 183 owners who average one-third of a square mile

each: the remaining owners have an average of one acre each.

Traffic.—It may easily be seen that in such a huge town as L. much will depend on the traffic facilities. In L. these are fairly extensive, but not altogether satisfactory. As we would expect, the great trunk railways converge on L., and have their terminal stations within its borders; thus, the G.E.R. (Liverpool Street), the G.N.R. (King's Cross), the M.R. (St. Pancras) the L. and N.W.R. (Euston), the G.C.R. (Marylebone), the G.W.R. (Paddington), the L.B. and S.C.R. (Victoria and London Bridge), the S.E. and C.R. (Victoria, Charing Cross, Holborn, and Cannon Street), and the L. and S.W.R. (Waterloo) are the ends of the great lines starting from L. The S.E. and C.R. has sixty-two stations within the London county area; the G.E.R. and the L.B. and S.C.R. have twenty-seven each within the same area. There is also the Fenchurch Street station of the L.T. and S.R. in agreement with the M.R. The mainly or altogether internal railways and tubes are the following: (1) The North London Railway, terminal at Broad Street, E.C., serving N. London, with running powers extended over some connected lines beyond; in association with the L. and N.W.R. (2) Metropolitan Railway, serving the districts between Baker Street to Harrow, and working with the G.C.R. beyond, to Aylesbury, etc., also between City (Aldgate Street) to Hammersmith and Richmond; with an Inner Circle to South Kensington, and running powers all round the circle. (3) District Railway, extending from Barking in the east to Uxbridge, Richmond, and Wimbledon on the west and south-west. Parts of the two last lines together form the 'Inner Circle,' with Aldgate and Notting Hill stations as its extreme east and west points, and King's Cross and Gloucester Road stations as its north and south points. (4) Central London Tube, from Liverpool Street to Shepherd's Bush (now being extended to Ealing). (5) Hampstead Tube from Charing Cross to Golders Green by one branch, and to Highgate by the other. (6) Piccadilly Tube, from Finsbury Park, N., to Hammersmith, joined at the Holborn station by a short line from the Strand. (7) Bakerloo Tube, from Elephant and Castle to Edgware Road. (8) City and South London Tube, from Clapham Common to Euston, *viâ* the Bank of England and the Angel, Islington. (9) Great Northern and City Tube, from Moorgate to Finsbury Park. (10) Waterloo Tube, from Waterloo station to Bank. Of these lines, the Piccadilly, Bakerloo, and Hampstead are under joint management, and known as the London Electric Railways Co. This company also hold the controlling interest in the Central London and South London. The other traffic facilities of L. are the tramway and omnibus. The tramways are almost entirely in the hands of the London County Council within their area, and other public or private systems extend over the greater L. area. Over the whole area of greater L. there are about 400 m. of tram lines working, and of these the London County Council owns about 146 m. The tramways on the S. of the river are linked to the northern systems by the subway which runs from the Victoria Embankment and emerges on the surface again at the N. end of Kingsway. The omnibuses, now almost entirely driven by motors, are still in the hands of private companies, which cover almost 200 m. of streets within the L. county area. The London General Omnibus Co., the London Road Car, and the Vanguard Motor Omnibus Co., which, between them, controlled most of the omnibuses, amalgamated in 1908, and they have now been included with the London United Tramways Co. in the great London Electric Railway Co. mentioned above. The London County Council attempted to conduct a steamboat traffic on the R. Thames, but it has now been abandoned, and a river service is conducted by a private company during the summer months mainly between London Bridge and as far up as Richmond.

The docks.—The docks are one of the most important features of L., as one might expect in the case of the greatest trading centre in the world. These docks are now under the control of the Port of London Authority (*see above*). The principal wet docks of L. are the following: Tilbury, Royal Albert, Royal Victoria, East India, Millwall, West India and South-West India, London (Shadwell), St. Katherine, all on the N. side of the river; the Surrey Commercial docks on the S. side of the Thames. These docks have a total water area of about 645 acres; and the quays have a total length of almost 28 m. The docks begin just below the Tower of London, and are named above in their geographical order from the mouth of the Thames to the Tower.

Commerce and industry.—L., in proportion to its vast size, is not an industrial city in the sense of the manufacture of goods. There are, of course, large engineering works and shipbuilding yards at the East End, on

the river. There are leather works in Bermondsey, and clock-makers in Clerkenwell, and furniture workshops in Bethnal Green, and there is still silk weaving in Spitalfields. Breweries are famous and numerous, and by some strange luck, smoky L. has been chosen as a suitable place to manufacture biscuits in large quantities. But in the great mass of L. all these trades are of comparatively small account. L. is essentially the city of distributors and middlemen. It is a place of import and export; of bankers and financiers; of clerks and bookkeepers. It is the greatest gold-holding centre in the world. The L. bankers are the heart of commercial L., with the Bank of England at their head. Lombard Street is the classic place for great banks. Then there is the Stock Exchange, almost touching the Bank of England. On the other side of the Bank lies the Royal Exchange, with the great Lloyd's (the place of shipping insurance). The Corn Exchange, the Wool Exchange, the Coal Exchange, the Shipping Exchange, in other parts transact the business of their respective trades. But perhaps the most pregnant summary of the trade of L. is to be found in the statistics of the tonnage of shipping which passes through the docks during export and import. In 1911, 11,900,000 tonnage of shipping entered L. (the next British town being Liverpool with 7,880,000 tons); 9,000,000 tons cleared the port of L. These figures only cover the trade with countries beyond the British Isles. It is necessary to add the 6,830,000 tons of 'coast-wise' shipping entered, and the 2,900,000 tons of coast-wise shipping that went out. The total figures, therefore, give an export and import tonnage of almost 30,000,000.

The chief markets have been mentioned above in reference to the City corporation, under whose control and whose property they are. The chief market of L., beyond the possession of the city, is the vegetable market of Covent Garden, which is the property of the lucky Dukes of Bedford.

Parks.—In the mass of bricks and mortar which make up L., there are mercifully a few open spaces, some of considerable size. The most central and most famous is Hyde Park, of 363 acres, with the adjacent Kensington Gardens, of 274 acres. Practically touching Hyde Park, begins Green Park, of 52 acres, and adjoining the latter is St. James's Park, of 193 acres. Further N. from the above group is Regent's Park, which, with the adjoining Primrose Hill, has a total area of 472 acres. All these are owned by the government, as is likewise the case with the magnificent Richmond Park, of 2358 acres, which is, however, just over the county of L. boundary, but within the greater L. area. Woolwich Common, of 159 acres, is also in the same control. The London County Council maintains a large number of parks and open spaces having a total area of 5056 acres. The largest is Hainault Forest (805 acres), and the others most important are: Hampstead Heath (320 acres), Hackney Marsh (339 acres), Parliament Hill (267 acres), Victoria Park (Bethnal Green) (217 acres), Clapham Common (205 acres), Battersea Park (199 acres), Wormwood Scrubbs, (Hammersmith) (193 acres), and Finsbury Park (115 acres).

History.—The history of L. is inevitably bound up with the story of the nation of which it is the capital city. Nevertheless, there is a more local sense in which that history can be considered, and it is that which must be treated here. L., as we now speak of it, [illegible] places whic[illegible] dividuality known to the Anglo-Saxons, the Normans, and even in the days of the Stuarts and Hanoverians, was a city on the E. side of the little streamlet, the Fleet, which ran along the foot of Ludgate Hill. On the E. side of the town its boundary was drawn from the Thames bank, from about the spot where the Tower of London now stands, which has been the military key through almost the whole history of the City. From the days of the Romans a wall ran from this S.E. corner, making a curve just short of the [illegible] it came alon[illegible]de and reac[illegible] the end whe[illegible] Bridge. This [illegible]ere spot on the map of modern L., was the city of history. It certainly extended during the middle ages into small suburbs which grew up at its various gates; chief at Ludgate, Bishopsgate, and Cripplegate. The more important of these suburbs were made into wards of the City. But they reached a very little way from the gates when all is said. All the rest of the L. we know to-day was, until the end of the seventeen-hundreds, in actual fact, and even until the Local Government Act, 1888 (constituting the [illegible] County Council), in theory, [illegible] villages and [illegible] most, there [illegible] minster (and for some purposes it still exists independently), the place of the royal palace and the abbey which the royal house had founded, and especially favoured. For long centuries,

Westminster was almost as important as the City of L. It was the king's city as against the city of the merchants. Even to-day the distinction still holds good in many ways. The departments of the royal government mainly cluster round the Houses of Parliament and Whitehall. Then other independent manors or villages were Kensington, Chelsea, Paddington, and Marylebone on the W.; Islington, Stoke Newington, Hampstead, and Hackney on the N. Stepney, Whitechapel, Bow, and Bromley on the E.; the borough of Southwark, and the villages of Lambeth, Kennington, Battersea, and many others on the S.; all these names would now be considered as part of L. They have been swamped and encircled by the ruthless endeavours of the builder.

It is with the doings of L. and Westminster that the historian must be mainly concerned. They were, and are, the two dominant partners in the group. The first L. was probably a Celtic hamlet near the bank of the Walbrook, a stream now built over, and scarcely more than a large drain. But small though it was, it seems to have given the place the name which lasts to this day. In Celtic, *Llyn-din* means a stronghold by the marsh. Another theory traces the name from Lud, a Celtic water-god. The first historical reference to the place is in Tacitus; who wrote of it as: 'Londinium, a place which is not indeed dignified with the name of a Colonia, but which is greatly celebrated for the number of its merchants and the abundance of its supplies.' His reference is to the time when it was sacked by Boadicea's army which had risen against the Romans. The Romans had adopted this spot for much the same reason that it had attracted the Britons: it was the first convenient place where there was both a small hill which could be defended from attack, and also an easily available ford at Westminster close by. The Romans, with their higher engineering skill, were able to build a bridge: at least that is the inference from the fact that the Roman roads concentrate on the position where it still crosses the river. On the other hand, the ford gave a good reason for the selection of Westminster as an important place. In the middle of the ford was the little island of Thorney. The buildings perhaps began as a halting-place, or the abode of the guides who conducted travellers over the river. King Sebert of the East Saxons seems to have built a church there as early as 616. But it was Edward the Confessor's Abbey which made the place really famous; and he added a royal palace that gave Westminster the two main keynotes which it retained throughout its history. This adoption by the kings left the City of L. more completely in the hands of the merchants, who asserted their privilege of freedom from the direct control of the crown. To this day, when a king of England enters the city he must be met by the Lord Mayor, who hands him the keys of admission at Temple Bar, the western limit of London proper. Almost the whole of what we now call the 'West End' was built on land which was part of the Abbey's manor of Westminster; and the chief landowner of that district is now the Duke of Westminster, who has taken the historical place of the abbot and his monks. Southwark, the borough which lies at the S. end of London Bridge on the Surrey side of the river, was an independent place in its early history. It was inhabited by the Romans, who left many remains there. Later on it became mainly a Danish settlement during the periods of the Danish raids and rule, and its [illegible] e Danish for [illegible].' It was not [illegible] III. put it under the jurisdiction of the City of L., whose town council complained that it had become a refuge for criminals who escaped there in order to get beyond the reach of its magistrates. But Southwark still retained many privileges, and it was not until the time of Edward VI. (1550) that it was made a ward of the City, with an alderman.

There we have the origin of the three chief units which now form the nucleus of the modern L. For many long years the chief point at issue between L. and Westminster was to settle how much of the wealth of the City merchants should go into the treasury of the Westminster king. The City was the wealthiest place in the kingdom. The kings had other great palaces besides the one at Westminster: in early days Winchester, for example, ranked as the first place in the land. When William the Conqueror arrived, he saw the importance of commanding L., and one of his first acts was to built the Tower, partly inside the walls and partly without, so that he could dominate the City, and yet not be surrounded by his unruly subjects. At first the Tower was a royal residence as well as a fortress. But as time went on, the kings lived more and more at Westminster, and by the time of Henry VIII. the Tower was mainly a prison and a fort. Charles II. was the last monarch to sleep within its walls. Since the early parliaments were practically taxing assemblies called

advantage, and he himself would have the same proclaimed throughout the city and strictly observed.' When the king, Henry III., refused to acknowledge such a revolutionary lord mayor, the Londoners threw themselves on the side of the barons and fought with them at the great battle of Lewes, 1264. It was the indiscretion of Prince Edward in chasing these Londoners too far from the field which lost his father the battle, for when Edward turned back to his father's assistance it was too late, for the king was a prisoner. The reason for young Edward's mad desire to hit at the Londoners gives us an interesting insight into the mediæval history of their town. A year or so before, Henry had been short of money, so Prince Edward raided the treasury of the Templars living in the Temple, where it still stands to this day off Fleet Street. The Londoners, like all well-to-do persons, thought that this lawless raiding might arrive at their possessions next. So, to show their anger, they took the first opportunity of throwing mud at the queen as she passed along the Thames under London Bridge on her way from the Tower to Windsor Castle. The chase at Lewes is generally held to have been incited by Edward's desire to revenge his mother. There is a dramatic sequel to the story. When Henry was rid of Simon de Montfort, he turned savagely on L. and seized control of its government. He demanded that Fitz-Thomas and the chief men of the City should attend before him at Windsor and submit themselves to the royal mercy. They arrived. What happened is a mystery to this day. Some of them were released very quickly. But Fitz-Thomas was never seen again.

In the Charter of 1319, there is a clause declaring that every freeman of L. must belong to a 'mystery' or guild company, unless he could persuade the commonalty to elect him by popular vote. This made the control of L. almost a close monopoly of the craftsmen or guildsmen. In the reign of Edward III. it became a common custom to recognise these guilds or livery companies by a grant of letters-patent from the crown. By 1328, twenty-five guilds were thus legally recognised as possessing power to draw up rules for the regulation of their respective trades. By 1377, when Edward III. died, thirty-five had been added to the list. In 1351 the guilds elected the Common Council. It was during the fourteenth-hundreds that the splendid guild houses of the City companies were mainly built. Before 1400 we can only be certain that two of them were already in existence—the halls of the Merchant Taylors and of the Goldsmiths; but the Fishmongers probably had built their hall also. By the year 1485, the beginning of the Tudor period, twenty-eight other halls had been built, and others were in process of building. This century may be taken as the high-water mark of the power of the great City companies. In Tudor days the power of the crown increased at the expense of the mediæval power of the church and guilds, and the evolution of industry had burst through its mediæval clothes. The day of the more unrestrained individual capitalist was coming fast. The transition from the master of a guild to an American millionaire was well on its way, and it deeply modified the history of L.

Edward IV. was in some ways particularly bound up with the history of the City. He was a great favourite with the traders of L. He made love to their wives, and generously scattered charters of privileges amongst the smaller guilds. He became a wool trader himself, and did a flourishing trade with Flanders. He also paid his debts punctually. In return for all these favours, the citizens gave him a free hand. They allowed him to murder Henry; to grant the famous Hanseatic League of foreign merchants almost complete independence within their guild house, the Steelyard, which stood where Cannon Street station now stands. But it was the Great Rebellion of the sixteen-hundreds which finally demonstrated the great power of L. One might almost say that the merchants of L. were the motive power in the revolt against Charles I. They were now almost supreme within the walls. Their rival, the Church, had been swept away by the unscrupulous Henry VIII. When Charles attempted to raise money by forced loans and restrain trade by patent monopolies, he found the City merchants too strong for him. All the right was by no means on the City's side, but there was no tact on the side of the king, and when strength meets blind autocracy there must follow war. L. was the strength of the Parliamentary party. When the king used armed force in the House of Commons, the threatened members fled to the City, where they were safe. It shows the strength of the Londoners when we read that all the satisfaction that the pursuing Charles could get, when he entered the City to demand the surrender of his opponents, was a loud angry shout of 'Privilege! Privilege!' When Charles levied ship-money there was

only one man in all L. who would pay. Strafford is said to have counselled Charles to bring the City magnates to reason by cutting off a few of their heads. But instead it was Strafford's head that was cut off, and they say 200,000 people on Tower Hill to see it . . Commons sat in the City friends were arming When Charles heard the the trained bands of L. w he left Whitehall and t . residence out of harm's way at Hampton Court. Thereupon the Commons were escorted back to their house at Westminster by the the citizens in tumultuously joyful mood at their victory. Then the Civil War was fought, and L. was the centre and support of the Parliamentary men all through. At the Revolution of 1688, the councillors of L. did not take quite so official a part, though it was within the City that the lords and bishops met (at the Guildhall) to arrange the plot to call William from Holland. When he arrived he invited the lord mayor, the aldermen, and fifty councillors to sit in the Convention parliament which offered him the crown. In other words, he treated L. as an estate of the realm. That was, perhaps, L.'s last appearance of this constitutional kind. Henceforth, it is merely the largest and wealthiest among the other towns of the nation. By this time the swelling of the L. suburbs had begun. When the nobles and gentlemen returned to L., at the Restoration of the court of Charles II., they did not take their old place in the City. They built themselves houses round Covent Garden and St. James's, continuing the process which had already begun round Lincoln's Inn Fields in the days of Charles I., when the friction between crown and merchant had already started. These early suburbs linked up L. with Westminster. It was during the Hanoverian period that the rest of the West End spread, drawing, one by one, the surrounding villages within the whirlpool of L. as we know it to-day. Even in 1725, when the traveller De Saussure described it, he could still write that 'Chelsea is one of the finest and largest villages outside London . . . about two miles from Chelsea you reach Kensington, a large and fine village situated on a slight elevation. . . . Marylebone is a fine large village about one mile from London. . . . Paddington is a small village further north, and two miles distant from London.' And he writes of Islington as a 'small market town,' and the villages of Hackney, Hampstead, and Highgate, while Lambeth, on the S., is another 'small market town.' Of course Hammersmith, Fulham, and Putney were quite rural places in his eyes. It is, therefore, only since this date that L. has become anything like the place w know it. A statistical may help to focus its size. inning of Elizabeth's reign, about 50,000 inhabitants he walls, and perhaps 0,000 in the suburbs proper. e the moment of its first rapid growth. By the end of Elizabeth's reign it had almost doubled its population. By the Restoration of Charles II. the total population was about 450,000. Now it has, in its widest sense, over 7,000,000.

Topographical and architectural features.—The above rapid sketch of the historical growth of L. will have given a hint as to the distribution of its architectural features, which must now be summed up in a more systematic form. But first a word as to the topography. As said above, L. was at first a settlement on a little hill by the river bank. The City proper is on higher ground. The original hill can best be realised by looking up Ludgate Hill from the E. end of Fleet Street, and also by noticing how the streets to the S. fall away to the river. Then continuing through the City eastwards, the ground descends until the old bed of the Walbrook is reached in Cannon Street, and the more rapid rise of the other bank can be noted just in front of Cannon Street station. The N. side of the City is flat where it reaches the ground, which was in earlier days the Moor or Fen, still commemorated in the names Finsbury and Moorfields. Beyond that the town rises to the high ground of Islington and Hampstead and Highgate. Returning to the foot of Ludgate Hill the S. side of Fleet Street slopes more and more steeply down to the river until the comparatively steep streets are seen on the S. side of the Strand with the ground still rising on the N. side. Then comes the City of Westminster, built on the old marshes along the Thames, continuing along the river bank towards Putney. The ground rises slowly to the N. until it reaches the fairly uniform plateau along which Oxford Street runs, falling down rapidly at its E. end to the valley of Holborn (the stream in the hollow), now, of course, easily overlooked because of the Viaduct. The chief historical and architectural features of present L. are the following: The City Wall (best seen at St. Alphage Church in London Wall, in Cripplegate Churchyard, in the basement of the General Post Office build-

ings, and near the Tower). *Chief* [illegible] Council area), Buckingham Palace, the Horse Guards (Whitehall). *Domestic and guild houses:* The Guildhall, Merchant Taylors' Hall, Apothecaries' Hall, the Middle Temple Dining Hall, Lincoln's Inn Gateway, Barnard Inn, Staple Inn, Gray's Inn Hall, Chelsea Hospital (by Wren), Newcastle House, and Lindsay House (Lincoln's Inn Fields), the houses in the Temple, Featherstone buildings, the Adelphi, Berkeley Square, Grosvenor Square, Inigo Jones's house on S. side of Great Queen Street. The best known of the larger private houses are Holland House, Lansdowne House, Marlborough House (belonging to crown), Bridgewater House, Apsley House, Chesterfield House, Stafford House (to be used as a public museum), Montague House (Whitehall). *Churches:* Westminster Abbey, St. Paul's, St. Bartholomew's, Southwark Cathedral, Allhallows Barking Church, St. Stephen's, Walbrook (said to be Christopher Wren's best parish church), St. Olave Hart Street Church, St. Andrew Undershaft Church, St. Helens, Bishopsgate, S [illegible] (best example of a [illegible] church of the middle [illegible] in London), the Temple Church, Chelsea Old Church. There are many of Wren's pa[illegible] scattered over the Cit[illegible] completely uniform streets are: Regent Street (Nash in early eighteen-hundreds style), Queen Anne's Gate, Westminster (built about 1706), a very beautiful square of the period. Bloomsbury is still largely early Victorian, with many houses still older. The Great Ormond Street district has many rows of Queen Anne houses. The Adelphi is the work of the Adam Brothers. Whitehall, with the Admiralty and Horse Guards, etc., is still very Hanoverian in tone. Belgrave Square and its district is fairly uniformly in the style of the period 1830-50. Fitzroy Square is the work of the Adams again.

Bibliography.—There is a multitude of books on L.; the most convenient for general reference are: W. J. Loftie, *The History of London;* W. R. Letherby, *London before the Conquest;* Reginald R. Sharp, *London and the Kingdom;* Stow's *Survey of London*, written in Elizabeth's time (edition by Mr. Kingsford); G. R. Stirling Taylor, *An Historical Guide to London* (Dent); the new 3-vol. ed. (by Wheatley) of Cunningham's *Handbook of London;* Cassell's *Old and New London* (6 vols.); Walford's *Greater London* (2 vols.); the many volumes by Sir W. Besant and his assistants.

London, a city of Ontario, Canada, in Middlesex co., on the R. Thames, includes the suburbs of London Junction and Ealing. There are manufs. of agricultural implements, and breweries, petroleum works, etc. It possesses a university and a ladies' college. Pop. 46,300.

London, Bishop of, *see* INGRAM, ARTHUR FOLEY WINNINGTON.

London, Jack (*b.* 1876), an American author, is especially famous for his remarkably sympathetic animal stories, like *The Call of the Wild* and *White Fang* (1906). Other of his works and tales of adventure are: *The God of his Fathers; The War of the Classes*, 1905; *Moon Face*, 1906; *Martin Eden*, 1909; and *Adventure*, 1911. A native of San Francisco, he has been oyster pirate, sailor, prisoner, lecturer, and journalist; has hunted seals in the Behring Sea; visited Japan and Klondike (1897); and tramped over Canada and the States.

London, New, *see* CONNECTICUT.

London and North-Western Railway Company, formed in 1847 by the amalgamation of the Liverpool and [illegible] the London and Birmingham Junction railways. [illegible] engineering works are at Crewe, where they were first established in 1840. The company, which [illegible] responsible for the prosperity of this town, presented the in[illegible] with a fine park in 1888, and have otherwise made generous endowments. Sir Richard Moon was chairman for twenty-nine years (1862-91) and Sir George Findley was general manager for close on twenty years. The present chairman is Sir G. H. Claughton, and the present general manager Mr. Frank Ree (1913). In 1911 the capital was £126,351,640; the gross receipts, £16,448,693; the train mileage, 48,172,654; the miles in work 1966, and the dividend on ordinary stock 6¼ (5½ in 1903). The longest run without stopping is from Euston to Rhyl (209¼ m.), the average speed being 52·7 m. per hour.

London and South-Western Railway Company, was opened in 1839, and its Acts were consolidated in 1855. The fastest run is from Basingstoke to Vauxhall (46¼ m.) in 49 min., and the longest without a stop is from Waterloo to Bournemouth (108 m.) in 2 hrs. In 1911 the capital was £57,429,630; the total receipts, £5,770,185; the dividend on ordinary stock, 6 (the same in 1903); the train mileage, 20,079,500; the miles in work, 964; and the number of en-

gines, 748. The present chairman is Mr. H. W. Drummond, and the general manager is Mr. H. A. Walker (1913). The London terminus is Waterloo station. Southampton, Portsmouth, Plymouth, Ilfracombe, and Bude are all situated on main lines. The company owns the Southampton docks, including the huge Empress Dock, and some twenty steamers which convey passengers from Southampton to the Channel Islands and to France.

London, Brighton, and South Coast Railway Company, was constituted in 1846. The fastest run which this company makes without stopping is from Victoria to Brighton (51 m. in 1 hr.). The capital is £99,084,099: the total rec[illegible] livi-dend on [illegible] 911; 5½ in 1903); the train mileage, 13,009,288; the miles in work, 454; and the number of locomotives, 535. The present chairman is the Earl of Bessborough, and the general manager is Mr. William Forbes (1913). Brighton, Eastbourne, and Portsmouth all have stations on main lines, whilst the coastal towns from Portsmouth to Hastings are also served by this company. It further is joint-owner with the French We[illegible] way Company of the [illegible] service between Newha[illegible] Dieppe, and it also runs [illegible] cargo-steamers between [illegible] and Caen.

London Clay [illegible] regions of this, [illegible] Eocene formati[illegible] —the lower b[illegible] and the Hampshire basin. The apex of the triangles are near Hungerford and Salisbury respectively, while the bases are clearly marked by the extent of broken and low coast with muddy estuaries. It is a stiff clay, grey, red, brown, and bluish, with little trace of bedding and no large number of fossils. The fossils are indicative of an old estuary with warmer seas than now, and indicate the presence of palms, turtles, crocodiles, and other tropical life. Layers of septaria occur, worked on the E. coast and N. Kent into cement. The outcrops are largely marked by the presence of brickfields with their characteristic yellow bricks. The beds are based on sand and gravel, below which lies the chalk; they have a maximum thickness of over 700 ft. The impervious bed imprisons large stores of subterranean water supplied from the Chilterns and North Downs, and renders possible the artesian wells which supply the fountains of Trafalgar Square and an increasing number of factories and business houses. *See* Lyell's *Principles of Geology*; Bowerbank's *Fossils of the London Clay*; Whittaker's *Geology of London*.

Londonderry, a northern co. of Ireland in the prov. of Ulster, bounded N. by the Atlantic. The surface varies, being composed of river valleys, rising to table-lands and mountains, of which the highest elevation is Mt. Sawell (2236 ft.). The most important river is the Roe, which cuts the county in two and flows into Lough Foyle, others also flowing into Lough Foyle are the Faughan and the Foyle, while further S. are the Moyola and the Bann. Lough Finn is the only lake, but Lough Neagh forms part of the E. boundary. The climate is not good for agriculture, but cattle and sheep are reared, and oats, turnips, and potatoes grown, also flax. The principal manuf. is linen, and there are also potteries, breweries, and distilleries. The Bann affords fine salmon and eel fisheries, and the deep-sea fishing is carried on extensively. It is divided into six baronies, and two parliamentary divisions, each returning one member. In 1609 the estates of the O'Neils, who owned most of the county, were [illegible] and made over to the [illegible] London; the common [illegible] London then inaugurated [illegible] ociety and they retained [illegible] L. and Coleraine, while twelve of the big livery companies [illegible] the rest of the property them. In 1637 James I. their charter, but it was by Cromwell, and their rights are still retained. Area 816 sq. m. Pop. (1911) 140,621. 2. Or **Derry,** the co. tn., situated on a hill on the W. bank of the R. Foyle, and still partly surrounded by the old city walls, which extend for about a mile and include seven gates and several bastions. There are some fine old buildings, of which the Protestant Cathedral of St. Columba is the finest, dating from 1633, and close to it is the bishop's palace (1716) occupying the site of the abbey founded by St. Columba. Linen manuf. is the chief industry, especially shirt-making, but there are also shipbuilding yards, iron foundries, breweries, etc. There is a fine harbour and the shipping trade is considerable. It is a county borough, and returns one member to parliament. Historically it is famous for the siege which it sustained against James II. in 1689, and which is commemorated by a column surmounted by a statue of the governor, George Walker. The anniversary of the relief is still observed on July 30. Pop. (1911) 40,799.

London Gazette, The, first appeared

in 1666, being in reality the 24th number of the *Oxford Gazette*. Charles Perrot, M.A., a fellow of Oriel College, Oxford, edited it till about 1671. Although it aimed at being the official recorder of news, its scanty columns contained little up-to-date information. After the Revolution (1688) it appeared three times a week, the reader paying a penny for two double columned folio pages of scrappy gossip or dry, inaccurate 'news.' In 1707 Richard Steele was appointed [illegible] In 1845, when [illegible] is at its height, [illegible] assumed bulky dimensions because of the unprecedented rush of advertisers. On Nov. 15 of that year it was swollen on this account to as much as 583 pages of printed matter. To-day it appears twice a week, on Tuesday and Friday. Its pages are filled with announcements of appointments, promotions and retirements, etc. in the army and navy, and with advertisements inserted in accordance with the order of a court or the law of the land.

London Military District was formed in 1905 by the Army Order of Jan. 6. This order reorganised the various military districts, staffs, and commands of the United Kingdom. In England, in addition to the Aldershot, Southern, and Eastern Commands, the North-Eastern district became the Northern Command, and the District of London and the Welsh and Midland Command [illegible]. The County Council [illegible] the depôt of the [illegible] Caterham, and [illegible] at Windsor are [illegible] London District, as are the camps at Pirbright for the purposes of manœuvres, etc., in the summer.

London Topographical Society was founded for the publication of material illustrating the history and topography of the City and County of London from the earliest times to the present day. It reproduces maps, views, and plans, publishes documents and data of every description, and gives a yearly record of demolitions and topographical changes. Several maps and plans, the earliest dating from 1550, have already been produced. The Society publishes *The London Topographical Record*.

Long, George (1800-79), an English scholar, was a wrangler at Trinity College, Cambridge, in 1822, and in the following year gained a fellowship, though the future Lord Macaulay was his rival. He served as classical professor at the University of Virginia (1824-28), and in what was afterwards University College, London (1828-31). From 1849 to 1871 he held a similar post at Brighton College. Throughout his life he was engaged in editing Greek and Latin texts, and when he was growing old published his laborious *Decline of the Roman Republic* (1864-74). Moreover he became a barrister in 1837, and delivered two discourses on law, which were subsequently published. But the greatest achievement of his industry and learning was the *Penny Encyclopædia* (29 vols. 1833-46), of which he was sole editor.

Long, Roger (c. 1680-1770), an English astronomer, took his M.A. degree from Pembroke Hall, Cambridge, in 1704, and fourteen years later became a doctor of divinity. In 1729 he was chosen vice-chancellor of his university. For three years (1749-51) he was Lowndes' professor of astronomy, after which he retired to a country vicarage. His textbook on astronomy (1742 and 1764) did much to popularise the science.

Long, Walter Hume (*b.* 1854), an English statesman, was educated at Harrow and Christ Church, Oxford. Since 1880 he has sat continually in parliament, his constituencies being N. Wiltshire (1880-85), Devizes division (1885-92), W. Derby (1892-1900), S. Bristol (1900-5), S. Dublin (1906-10), and the Strand division of London (1911). He has always served the Conservative party, and was parliamentary secretary to the Local Government Board from 1886-92, and from 1895-1905 he held successively the presidencies of the Board of Agriculture and the Local Government Board, each for a period of five years. In 1898 he was created colonel of the Royal Wiltshire Imperial Yeomanry.

Long, Loch, a sea loch of Scotland, being a branch of the Firth of Clyde between Argyllshire and Dumbartonshire. It extends N. from Holy Loch to Arrochar for about 18 m., and its width is from 1 to 2 m.

Long Beach, a watering-place and summer resort of California, U.S.A., situated on San Pedro Bay, 4 m. E. of Wilmington. Pop. (1910) 17,809.

Long-boat, in former times attached to vessels so as to enable the sailors to pursue smugglers or hostile merchantmen, to carry the provisions on board, and, in the time of the press-gang, forcibly to carry off men to man the ship. It was equipped with sailing tackle as well as oars.

Long Branch, a city of New Jersey, U.S.A., in Monmouth co., about 30 m. S. of New York. It developed into a watering-place, and was chartered as a city in 1904. It possesses a noted drive, the Ocean Avenue, 5 m. long. Pop. (1910) 13,298.

Longchamp, a pleasure resort and racecourse of Paris, France. The

latter is situated at the end of the Bois de Boulogne, and the race for the Grand Prix is run here.

Longchamp, William de (*d.* 1197), Chancellor of England, was a Norman of humble origin, whom Richard I. made Bishop of Ely in 1189, and afterwards, when he went on the Crusade (1190), joint-justiciar with Hugh de Puiset, Bishop of Durham. Like Wolsey, L. was unfailing in his devotion to his king, but his scorn of everything English, his burdensome taxation, his haughty bearing, and his ungainly person roused such a storm of popular dislike that he was soon expelled from the kingdom. Richard, later, made him chancellor, because he had helped to secure his ransom.

Long Eaton, a small tn. of Derbyshire, England, 10 m. E.S.E. of Derby, in the valley of the Trent. The principal industry is the lace manuf., and there are railway carriage works. Pop. (1911) 19,215.

Longevity, scientifically, refers to the length of life of any organism. In the case of lower forms of life very little has been determined, but the range is probably large; L. of a few hours is common. Higher plants are classed as annuals, biennials, perennials, etc., the range extending from a month to thousands of years. De Candolle gives figures as follows in years: Elm, 335; ivy, 450; palms, 600-700; lime, 1076-1147; oak, 810-1500; yew, 2880; baobab, 5000. In the animal kingdom, the range is considerably less, complexity of organism giving rise to greater chance of death. Certain infusoria live less than forty-eight hours. Cold-blooded animals live comparatively long: Pike and carp, 150; tortoises, 100. Birds are long lived: Eagles and crows, 100; peacocks, 20, but many smaller birds only 5 or 6. Among mammals, the elephant ranks highest, over 100; camel, 50-80; horse, up to 40; deer, 30; ox, 15-20; dogs, pigs, 15-20. Although in cases some relation has been suggested between the period of gestation, or the age of maturity and the complete term of life, no laws have been formulated. Amongst the human race, the biblical three score and ten still gives a healthy average, though it is not uncommon for the century to be passed. The average duration of life in Europe is reckoned as about thirty-four, a figure which takes account of infant mortality. Alleged cases of extreme L., such as that of Thomas Parr, 152 years 9 months, may be dismissed as

E OF ANIMALS,

tc.

Wadsworth

an poet, the

son of Stephen L., a lawyer and a member of the United States Congress. In 1822 he was entered at Bowdoin College in Brunswick, where Nathaniel Hawthorne was a fellow-student. After graduation (1825) he was offered a professorship of modern languages at his own college, and spent over three years on the Continent, visiting France, Germany, England, Spain, Italy, and Holland, in order to qualify himself for the post. After six years' work at Bowdoin College (1829-35), he accepted a similar chair at Harvard. In 1835, and again in 1842, he returned to Europe, which he visited for the last time in 1868. His home during the latter part of his life was a stately wooden residence in Cambridge, where Washington had stayed during the siege of Boston. He was twice married, first to Mary Potter (1831) and afterwards (1843) to Frances Appleton.

Like Wordsworth, L. passed a singularly happy and uneventful life, darkened only by two tragic sorrows, one the loss of his second wife, who was burnt to death in 1861, the other the loss of Agassiz, to whom he refers with such moving and beautiful sentiment in the five sonnets entitled *Three Friends of Mine*. His joy in life, his geniality, and his lovable disposition were all reflected in his face, which Kingsley said was the most beautiful human face he had ever seen. Many are the generous tributes which friends have left to the nobility of his character.

L. was a facile and tireless writer, and the mass and variety of his output is amazing. Besides publishing linguistic textbooks and contributing to reviews and magazines, he made several translations, the best of which is a rendering of the *Divina Commedia* (1867). Yet though he is wonderfully faithful to his original, he has failed to suggest the Dantesque fire and glowing mysticism, and his version is monotonous by reason of the absence of rhyme and the frequency of feminine endings. One of his earliest poems was *Hyperion, a Romance* (1839), an account of a foreign tour; from that date till his death the flow of his poetry was unceasing. The *Voices of the Night*

Psalm of Life';

cluding 'Excel-

the Hesperus.'

acksmith'; and

The Seaside and the Fireside, with *The Building of the Ship*, were all volumes of short poems and lyrics, most of which have found their way into the popular anthologies. As a dramatic poet, L. has established small reputation. His extravagantly emotional

play, *The Spanish Student* (1843), attracts few readers in this un- his ambitious *Mystery* (1872), on. It is an Christianity at of the world's history, but the illustrations chosen are wanting in balance. The first part, *The Divine Tragedy* (1871) is a noble paraphrase of the Gospels; the second, *The Golden Legend* (1851), is a delightful love story and lyric drama based on von Aue's *Der arme Heinrich*: and the third, entitled *New England Tragedies* (1868), exposes a cheerless and evanescent religious atmosphere.

L. was endowed, like William Morris, with a spontaneous gift for story-telling. In his *Courtship of Miles Standish* (1858) he re-animated the 'dry bones of Puritanism,' and in his *Tales of a Wayside Inn* (1863) he has strung together, with just such an excuse as Boccaccio had in his *Decameron*, a number of graceful and pleasurable stories. But the finest exposition of this gift is undoubtedly his epic, *Evangeline* (1847). Here he tells of the wanderings of two French lovers of Acadia, who are parted on their wedding-day, and who are only reunited when he is old and is dying in a hospital. This is one of the most popular of the longer poems and deservedly so, for it is wonderfully rich in tender pathos, sweet romance, and a stirring humanity. *Hiawatha* (1854) is the best appreciated of all the poet's works. Its haunting melodious metre, which affords such a contrast to the hexameters of *Evangeline*, is admirably adapted to the weird and old-world legend of the Indian Prometheus, whilst the ennobling allegory is so lightly mirrored forth, and the delightful cameo-pictures of the native skies and woods and hills are so deftly inset in the narrative of Hiawatha's progress, that truly these 'legends of prairieland belong to the world's great story-book.' In conclusion, it may safely be said that though it is *idle to look* ro- fundity of of the modern his poems will , if they last ing the same songs better.' *See* his *Life* (1886-90) by Samuel L., his brother.

Longford: 1. A co. of Ireland in the ded N.W. by I E. and S. by y Loughs Ree surface is gene is a good deal of marsh and bog. The chief rivers are the Camlin, flowing into the Shannon, and the Inny, flowing into Lough Ree. Marble has been found in the county, also iron and lead. The pasturage is good in places and some cattle and sheep are reared, and oats and potatoes are the chief crops. Linen and woollens are manufactured. The county is divided into six baronies and two parliamentary divisions, each returning one member. Area 421 sq. m. Pop. (1911) 43,794. 2. Co. tn. of above, and the trade centre for grain, butter, and bacon. It has corn-mills and tanneries, and possesses one of the finest churches in Ireland, St. Mels Roman Catholic Cathedral for the diocese of Ardagh. Pop. (1911) 3747.

Longhi, Giuseppe (1766-1831), an Italian engraver, the son of a silk-mercer, who destined him for the church, but L. had his way and followed art. In 1798 he succeeded his old master, Vangelisti, as professor of engraving at the Brera, Milan. The ideal of a good etcher, he believed, was not to display his own skill but to translate on to the copper the essential feeling and texture of the original. This ideal he realised in his 'Sposalizio' after Raphael, and his 'Madonna de Lago' after Da Vinci.

Longinus, Dionysius Cassius (c. 213-273 A.D.), a Greek philosopher, belongs to the group of men who gathered round Porphyry, his pupil, and is thus one of the last of the great pagan *literati*. The son of wealthy parents, he left his native Syria to study in Rome and Athens, and thus had every opportunity to absorb the culture of his day. But though he must have been taught the doctrines of Neo-Platonism, he never seceded from the old Platonic school. Like Socrates, he took his own life, and thus escaped the sentence of death passed on him by the Emperor Aurelian because he assisted his patron, Zenobia, Queen of Palmyra, in her revolt against imperial sway. There are strong reasons for believing that he wrote the *Treatise on the Sublime* (*περὶ ὕψους*), in which the highest critical acumen is united with a singularly pure and elevated style.

Long Island, an island lying off the coast of Connecticut and New York state, U.S.A., and forming part of the latter. It is 118 m. long, from 12 to 23 m. wide, and is separated from the mainland by Long Island Sound, which varies in width from 2 to 25 m., and is over 100 m. in length. Except on the N. the coast is much indented, and there are numerous bays, headlands, and smaller islands. In the Great South Bay there are large oyster beds, the famous Blue Points growing there. Market gardens flourish in the W., and cabbages and cucumbers are grown for sauer-

kraut and pickles. Brooklyn and Queen's boroughs, which form part of New York City, lie at the W. end. Nassau and Suffolk forming the remaining counties. The earliest English settlement was in 1640, and they were closely followed by the Dutch. The battle of L. I. was fought there in 1776; it was the first battle in the campaign and resulted in a victory for Lord Howe. The area is 1682 sq. m. Pop. (1910) 2,700,000.

Long Island City, formerly a city of Queen's co., New York, U.S.A., Since 1898 part of the borough of Queens, New York City, at the W. end of *Long Is.*

Longitude, *see* LATITUDE AND LONGITUDE.

Longmans, a London firm of publishers, established in 1724. In that year Thomas Longman, the founder (1699-1755), took over the business of William Taylor, who occupied the 'Ship' and the 'Black Swan,' two shops in Paternoster Row. The house of the present firm, Longmans, Green & Co., stands on the same site. Ever since the foundation members of the same family have continued to exercise a major control, though other men have from time to time been taken into partnership. In 1890 the [illegible] living-ton [illegible] among the [illegible] are the worl[illegible] Cole-r[illegible] re's *Lalla I*[illegible] *Lays of* [illegible] *'England;* and the works of John Stuart Mill, J. A. Froude, Sir Rider Haggard, W. E. Lecky, Andrew Lang, and William Morris. Since 1826 they have been the proprietors of the *Edinburgh Review*, and from 1863-1905 they controlled *Longman's Magazine* (known as *Fraser's* till 1882).

Longobards, Longobardi, or **Lombards**, the name of a nation of ancient Germany, belonging to the Suevic tribe. Their original dwelling-place was on the E. side of the R. Elbe, but during the 4th or 5th century they dwelt on the banks of the Danube and were successful in destroying the Heruli, while about the middle of the 6th century they lived in Pannonia, and here they were victorious over the Gepidæ. In 568, after crossing the Julian Alps, they, under their king, [illegible] which was ruled over by various kings for about two centuries. These L. treated the Italians whom they had conquered in quite a different way from their own people, allowing them none of their privileges, but at the same time they numbered among their kings some wise and able men. They were eventually conquered by Charlemagne.

Long Parliament, the name of two parliaments in English history (1640-53 and 1661-79) and of one (1886-1900) in the history of Spain. There follows a brief account of Charles I.'s parliament, to which the title belongs *par excellence*. Its first act was to compass the execution of the Earl of Strafford by [illegible] and it then [illegible] Star Chamb[illegible] church and royalist party grew up under the leadership of Hyde and Falkland, when Pym and Hampden, the chief statesmen of the popular party, showed by the 'Root and Branch Bill' and the 'Grand Remonstrance' that they intended to abolish the existing system of ecclesiastical government and get the reins of government into their own hands. In 1642 Charles made a futile attempt to seize Pym, Hampden, Holles, Hazlerigge, and Strode, his chief enemies in the House. From 1644 parliamentary power passed into the hands of the Independents. Laud was executed and the New Model Ordinance enforced, whereby a single parliamentarian army was created, the officers of which had all to subscribe to the Covenant (1645). In 1648 Cromwell got rid of the Moderate and Presbyterian members by the high-handed action immortalised as 'Pride's Purge.' The 'Rump,' as the remnant was called, was submissive to its master, and obediently voted the execution of Charles and the institution of the Commonwealth (1649). In 1653 it was angrily dismissed: the dictator had no further use for it.

Longridge, an eccles. par. and tn. of Lancashire, England, 6 m. N.N.E. of Preston. There are large stone-quarries in the neighbourhood, and the industries include cotton weaving and the manuf. of nails. Pop. (1911) 4340.

Long Service and Good Conduct Army Medal, is, as its name implies, a reward for long service combined with exemplary conduct, the qualifications necessary being service with 'irreproachable character and conduct' for a period not less than eighteen years. The medal has on the obverse a military effigy of the sovereign (formerly it had a trophy of arms), and on the reverse 'For long service and good conduct.' It is suspended by a crimson ribbon. The medal was instituted in 1833.

Longstreet, James (1821-1904), an American Confederate general, born in S. Carolina. Served and was

wounded in the Mexican War, and was made a brigadier-general at the outbreak of the Civil War. He took part in the battles of Bull Run, Fredericksburg, Gettysburg, and Chickamauga (1863). His accidental wound by his own men at a burning point of the battle of the Wilderness (1869) was of the utmost importance, as it checked the Confederates' assault at a critical moment. At the close of the war he was attacked by the extreme irreconcilable party of the S. He was minister to Turkey under President Grant, and commissioner of railways to President McKinley and President Roosevelt. He published *From Manassas to Appomattox* (1896), and his defence of his action at Gettysburg appeared after his death.

Longton, a municipal borough and market tn. of Staffordshire, England, situated in the S. of the potteries, 2½ m. from Stoke-on-Trent. From a small hamlet it has grown into a pottery town of considerable size, with blast furnaces, etc. There are coal mines in the vicinity. It now forms part of the borough of Stoke-on-Trent.

Longueuil, Barony of, *see* LE MOYNE.

Longus, a Greek writer, who lived probably during the 4th or 5th century A.D. He is remembered as the author of a book called *Pastoral Matters concerning Daphnis and Chloe*, which is noteworthy on account of its style and simplicity. Among the various editions may be mentioned: a translation by M. L. P. Courier (new edition by Robert Gaschet, 1911), and Amyot's translation of 1784.

Longview, a tn. of Texas, U.S.A., situated in Gregg co., 60 m. W. of Shreveport. Pop. (1910) 5155.

Longwood, *see* ST. HELENA.

Longwy, a fortified tn. of France, in the dept. Meurthe-et-Moselle, 18 m. S.W. of Luxemburg. There are iron mines in the vicinity. Pop. 10,000.

Long Xuyen, or Long Chuyan, a tn. of Lower Cochin-China, on the Bassac, 32 m. S.E. of Chandoc. Communication is maintained between the town and the gulf of Siam by the Rachgia Canal. Pop. (district) 95,000.

Lonigo (ancient *Leonicum*), a tn. of Venetia, N. Italy, in the prov. of Vicenza. It is situated on the Frassine, 23 m. W. of Padua, and possesses ferruginous springs. Pop. 10,400.

Lonneker, a com. and vil. in the Netherlands, situated close to the Prussian border, in Overijssel. Pop. 17,577.

Lönnrot, Elias (1802-84), a Finnish scholar, born at Sammatti in Nyland. From 1853-62 he occupied the position of professor of Finnish at Helsingfors University. He is the editor of *Kantele*, 1829-31; *Kalevala*, 1835; *Kanteletar*, 1840; *Sanalas Kuja*, 1842; *Arvoituksia*, 1844, all collected from Finnish literature, and a Finnish dictionary (1866-80). *See* A. E. Ahlqvist, *Elias Lönnrot*, 1885.

Lons-le-Saunier, a tn. of France, and cap. of the dept, of Jura, situated on the R. Vallière, 76 m. N.N.E. of Lyons by rail. Its name is derived from the Montmorat salt mines, which are close to the town. The manuf. of wine is the chief industry, and there is also a trade in horses and cattle, cheese, etc. Pop. 13,000.

Loo (formerly called Lanterloo), a round game of cards played by any number of persons. Three cards are dealt to each player, and an extra hand called 'miss,' and the top of the undealt cards is turned up for trumps. Each player then, having previously contributed to the pool, declares whether he will play, pass, or take 'miss.' If he passes he lays his cards face downwards on the table, and if he takes 'miss,' he does likewise, but must play with his new hand. Those who have declared to play then lay their cards one at a time in rotation, the highest of the suit winning the trick, unless it is trumped, as in whist. The cards played remain face upwards before the players. If the leader holds the ace of trumps, he must play it, or the king if the ace is already played, or if he has two trumps he must lead one. Subsequent players must follow suit, and must head the trick if able. If not able to follow suit, but can trump, must do so. The winner of the first trick must lead a trump if able. When the hand has been played out, the winners of the tricks divide the pool, each receiving one-third of the amount for each trick. If only one declares to play, the dealer plays miss for the pool, and the tricks he wins remain there as an addition to the next pool. If each declared player wins at least one trick, it is a 'single,' and a fresh pool is made as before; but if one of the declared players fails to make a trick he is looed. Then only the player who is looed contributes to the next pool. If more than one is looed, each has to contribute.

Loo Castle, *see* APELDOORN.

Loo-choo, Lu-chu, Liu-kiu, a group of islands which belong to the empire of Japan, and extend S.W. from the island of Kiushiu, towards Formosa, their area being about 1870 sq. m. The chief islands of the group are Oshima, Tokunoshima, Ishigaki, Iriomote, and Oniwaka, the last one being the most important, and having

Shuri, the capital, situated on it, with Nafa as its port. Some of the islands are of volcanic formation, while others are coral islands. They have a pleasant, warm climate, but are subject to typhoons. The soil of the islands is fertile, and produces large quantities of sugar as well as sweet potatoes—the chief food of the inhabitants—rice, sago, tea, tobacco, fruit, and oranges with an aromatic flavour. During the 14th century the kingdom of Loo-Choo paid tribute to China, but also had connections with Japan. In 1609 it was subject to Satsuma, but in 1874 the claims of China were given up, and a year or two later Loo-Choo became a part of the empire of Japan. The manners and customs of the people bear a strong resemblance to those of the Japanese, though they are by no means identical. See *Journal of the Royal Geographical Society*, 1895.

Loofah, or Vegetable Sponge, the fibrous skeleton of a gourd (*Luffa ægyptiaca*). After the pulp in which the seeds are imbedded has been removed, the fibre is used as a bath sponge.

Lookout Mountain, a ridge in northwestern Georgia and adjacent parts of Tennessee and Alabama, rising to 1600 ft. above the Tennessee R. It was stormed by General Hooker in 1863.

Loom, *see* COTTON.

Looming, a sailor's term for the indistinct or exaggerated appearance of land, a vessel, or other object through haze or darkness at sea. It is of obscure origin, and must be distinguished from 'looming,' the action or process of mounting the warp on the loom.

Loomis, Elias (1811-89), an American scientist, [illegible] Connecticut, an [illegible] (1830). He was [illegible] lege (1833-36); appointed professor of mathematics in the Western Reserve College, Ohio (1837); held the professorship of natural philosophy and mathematics in New York University (1844-60); and in 1860 became professor of natural philosophy and astronomy at Yale. He published several series of text-books on mathematics, philosophy, astronomy, and meteorology.

Loon, a tn. on the island of Bohol, Philippine Is. It possesses a sheltered harbour. Indian corn, coffee, cocoa, cotton, tobacco, cocoa-nuts, etc., are cultivated, and stock-raising is carried on. Pop. 18,000.

Loon op Zand, a com. of the Netherlands in the prov. of Brabant, and situated in the S. of the Langstraat. There are boot and shoe factories. Pop. 7817.

Loosestrife, *see* LIPIMACHIA, LYTHACEÆ, and LYTHRUM.

Lope, Felix de Vega Carpio (1562-1625), a Spanish poet and dramatist, born in Madrid. He took part in the expedition to the Azores in 1582, and also served in the Invincible Armada in 1588. He was secretary to the Duke of Alva and the Marquis of Malpica, and in 1613 took holy orders. He was held in high estimation in his own day, and his influence in Spain was as great as that of Voltaire in France. He was a voluminous writer, and epics, pastorals, odes, sonnets, and novels all fell from his pen, but it is, however, to his dramatic works that he owes his eminent place in literary history, and of these he wrote altogether over 2000. Some of his best known are: *Los Ramilletes de Madrid ; La Boba para los Otros y Discreta para sí ; El Perro del Hortelano ; La Viuda de Valencia ; El Maestro de Danzar ; Las Flores de Don Juan ; Desprecio agradecido ; Estrella de Sevilla ; Esclava de su Galan ; Premio del bien Nablar ; Alcalde de Talamca.* Among his other works are the *Angelica*, an epic poem, written in imitation of the *Orlando Furioso ;* the *Arcadia*, a pastoral romance ; *Dragontea*, an epic poem concerned with the history and death of Drake; *Isidro*, a sacred poem which deals with the life of Isidore, patron saint of Madrid; *Peregrino en su Patria*, a romance; *Jerusalem Conquistada*, an epic in competition with Tasso; *Pastores de Belen*, a religious pastoral; *La Filomena, La Circe*, written in emulation of Cervantes ; *Laurel de Apolo*, and *La Dorotea*, a prose drama.

Lope de Rueda, *see* RUEDA.

Lopes, Sir Manasseh Masseh, first [illegible] 1755-1831), a politician, de- [illegible] from a family of Spanish [illegible] orn in Jamaica. In 1802 he conformed to the practices of the Church of England, and was returned to parliament for New Romney, becoming a baronet in 1805. In 1812 he was member for Barnstaple, and in 1819 was imprisoned for bribery and corruption. On his release he was returned for Westbury, 1823, and again in 1826, but resigned his seat in 1829 to provide one for Peel.

Lopez, Francisco Solano (1827-70), a Paraguayan soldier and statesman, born at Asuncion. He was the son of Carlos L., by whose will he assumed the executive in 1862, and became president for ten years. His acts of cruelty and torture bordered on insanity; in these, he was influenced by Madame Lynch. Finally he was driven from Asuncion, and he retreated into the interior, where he and his eldest son were seized and

killed by a Brazilian force near the R. Aquidaban.

Lophiadæ, Lophiidæ, or **Angler Fishes,** a family of fishes with a very large mouth, and teeth hinged so as to bend over towards the throat. They have a depressed body, and live on the sea bottom, often at great depth. The angler fish (*Lophius piscatorius*) is a British species (*see* ANGLERS). The first few dorsal fin ray, are long and flexible and terminate in expansions over the snout which lure small fish within reach of the great mouth.

Lophiodon, a genus of extinct perissodactyle or superfluous toed Ungulates forming with the still existing Tapiridæ the super-family Lophiodontoidea. Fossil remains of various species are found in the Eocene strata, varying in size from a horse to a rhinoceros.

Lophobranchii, *see* BONY FISHES.

Lop Nor, *see* LOB NOR.

Lora del Rio, the cap. of the prov. of that name in Spain and about 30 m. E.N.E. of Seville. Pop. 7000.

Lorain, a city of Ohio, U.S.A., in Lorain co., on Lake Erie, 25 m. S.W. of Cleveland. There is a good harbour, and coal, iron ore, lumber, and grain are shipped. The manufs. are stoves, and automatic steam shovels. Pop. (1910) 28,883.

Lorca, a city of Spain, in the prov. of Murcia, 38 m. S.W. of Murcia. There are Roman antiquities, and Moorish walls and tower. Pop. 70,000.

Lord, a word derived from the Anglo-Saxon *hlaford,* provider of food (*hlaf,* loaf, *ord,* beginning), and has a variety of usages. The Lord is a term applied to the Jehovah of the O.T. and to the Saviour of the N.T. All bishops and archbishops are lords spiritual, whilst members of the House of Lords assume the title of lords temporal. It is a title given to persons of the peerage, and to those who have been created peers. All eldest sons of peers, such as dukes, marquises, and earls, whilst assuming an inferior title of the peerage, have the word 'lord' by courtesy prefixed to their entire name. Younger sons of the peerage have only the word 'lord' prefixed to their Christian name and surname. There is an official employment of the word 'lord' as in the case of the titles Lord [illegible] ocate, Lord Chief Justice Lord High Steward, Lord High Treasurer, Lord Keeper of the Great Seal, Lord [illegible] President of the [illegible] Bedchamber, [illegible] All judges are addressed throughout the British Isles as 'My Lord,' when acting in their official capacity. In some cases the members of boards which represent state legislation are called lords, as in the case of Lords of the Treasury, Lords of the Admiralty, etc.

Lord High Steward, *see* HIGH STEWARD OF ENGLAND.

Lord Howe Islands: 1. Lord Howe Is. is situated in the Pacific Ocean lying off Australia, about 520 m. E.N.E. of Sydney, and is under the administration of New South Wales. The island is of volcanic formation, and has coral reefs. 2. Lord Howe is the name given to Mopiha Is. of the Society Group, and to Ongtong, Java, of the British Solomon Is. 3. The Santa Cruz or La Pérouse Is. in the Pacific are also known as the Lord Howe Is.

Lord-Lieutenant, The (of a county), is nominated by the sovereign by patent under the great seal. He stands for the permanent local representative of the crown, and is responsible for the maintenance of public order. This title was first created in the reign of Henry VIII., and entailed many responsibilities. The lord-lieutenant had to maintain the efficiency of the militia of the county, and had the right of appointing his own officers. These rights were withdrawn in 1871, and revested in the crown. The chief duties imposed on the lord-lieutenant in present times consist in his appointment of magistrates for the county bench, in his appointment of deputy lieutenants, and in his raising the militia, if need be, in times of riot or invasion. He is, as a rule, a peer, a large landowner, and is often appointed *custos rotulorum.*

Lord-Lieutenant of Ireland, *see* IRELAND.

Lord Mayor of London, *see* LONDON.

Lord Nelson, a British battleship, which was completed in 1908. It was built at Jarrow, and has a displacement of 16,500 tons and a length of 410 ft. with a speed of about 19 knots.

Lord of Misrule was the 'master of mirth and fun' appointed in the king's court for the feast of Christmas. His nomination took place on All Hallow's Eve, and he remained in office till the Feast of Purification. According to Stubbs these mock dignities had from twenty to sixty officers under them, and were furnished with hobby-horses, dragons, and musicians. In Scotland they received the title of 'Abbot of Unreason.'

Lord of the Isles, *see* ISLES, LORD OF THE.

Lord's, House of, *see* PARLIAMENT.

Lords-and-Ladies (Botany), *see* ARUM.

Lord's Day, *see* SABBATH.

Lord's Supper, *see* EUCHARIST.

Loreburn, Sir Robert Threshie

Reid, Lord (*b.* 1846), the second son of Sir James John Reid. He was educated first at Cheltenham College and then at Balliol College, Oxford, where he took a first class in Moderations and in Lit. Human. He was appointed solicitor-general and then attorney-general in 1895. He was M.P. for Dumfries during the years 1886-1905, and received a decoration for his services in the Boundary Arbitration Commission. He was created knight in 1894 and baron in 1906.

Lorelei, or Lurlei, the name given to a rock rising out of the Rhine near St. Goar, in the prov. of Hesse-Nassau, Prussia. There are many legends associated with the L., which possesses a wonderful echo. One legend runs that a maiden sits upon this rock combing her glorious hair and tempting fishermen to death by the surpassing sweetness of her song which makes them approach the rock too closely. Another legend makes this rock the hiding-place of the Nibelungen treasure.

Lorenzetto, Pietro, an Italian painter, born at Siena towards the end of the 13th century; some of his pictures being dated earlier than 1305. His best works are: 'The Nativity of the Virgin,' 'The Invention of the Cross' (1338), and a group of figures in the Siena Museum. His brother, called *Ambrogio di Lorenzo* (c. 1265-1348?), was also a painter. In 1337-39 he executed in the Palazzo del Publico, some frescoes representing the saints worshipping at the feet of God the Father, which has stood very [illegible] the passage of time.

Lorenzo Marques, *see* LOUI[illegible] MARQUES.

Lorenzo di Medici, *see* MEDICI.

Loreto, a dept. of Peru, situated in the valley of the Amazon. The district is densely wooded and consequently difficult of approach. It is watered by the rivers Ucayali and Huallaga, between which lies a large plain, the Pampas del Sacramento.

Loreto, or Loretto, a city of the Marches, Italy, 15 m. S.S.E. of Ancona. It is a famous resort for pilgrims because of the Santa Casa, or Holy House, of the Virgin, which is reputed to have been brought over from Nazareth by angels in the 13th century. A magnificent church holds the sacred shrine which is adorned with most costly treasures.

Lorica, or Santa Cruz De Lorica, a tn. and seaport on the R. Sinu in Columbia, America. It is the centre of a shipping trade. Pop. 11,000.

Lorient, a fortified seaport in France, lies on the S. coast of Brittany in the dept. of Morbihan, and ranks as the most important centre for the building of men-of-war. The port is divided into a commercial and naval harbour. The chief export is timber, and the chief import coal. The naval port is situated at the mouth of the R. Scorff, and possesses quays upon which are built enormous workshops, foundries, and establishments of all kinds for the construction and equipment of men-of-war. Long-boats and canoes are built at Pré aux Vases, whilst the heavy battleships are built at Caudan. The port is well protected by forts, the most prominent one being St. Michel, possessing a powder magazine.

Lorimer (Lat. *lorum*, thong), the term given to makers of bits, spurs, metal mountings for saddles, and to all articles of horse furniture. The Ls. were incorporated in London by letters-patent in 1712. Cutlers, locksmiths, and brass founders are included in the guild of Ls.

Lorimer, James (1818-90), a Scottish jurist and author. He became a barrister in 1845, and later was made professor of public and international law in the Edinburgh University. His chief publications are: *Handbook of the Law of Scotland*; *Constitutionalism of the Future*; *Institutes of Law*; *Institutes of the Law of Nations*; *Political Progress not necessarily Democratic*; *Studies National and International*.

Loris-Melikoff, Mikhail Tarielovitch, Count (1825-88), a Russian [illegible] in, born in [illegible] army in 1843 [illegible] iment during [illegible] and on the [illegible] was made governor of that stronghold. Afterwards he conducted a brilliant campaign in the war against Turkey, and was [illegible] Kharkov in [illegible] became Minist[illegible] under Alexan[illegible] many reforms in the Russian administration.

Loriti, Heinrich, *see* GLAREANUS, HEINRICUS.

Lörrach, a com. and tn. in the grand duchy of Baden, Germany, 4½ m. N.E. of Basle. It has manufs. of cloth, calico, etc., and also a considerable trade in tobacco, wine, fruit, and cereals. Pop. 14,756.

Lorraine, Claude, *see* CLAUDE LORRAINE.

Lorraine (Ger. *Lothringen*), an ancient prov. of the N.E. of France which was originally the portion of the empire of Charlemagne, which fell to Lothair by the treaty of Verdun in 843. Later, it consisted of the departments of Meurthe-Moselle, Meuse

and Vosges. The name was given to two territories between the Saône and the Rhine, the northern portion between the Moselle and the Rhine bearing the name Upper Lorraine, and the southern portion Lower Lorraine. Since 1871 it has formed one of the three districts of Elsass-Lothringen, belonging to Germany.

Lorris, Guillaume de (*c.* 1215-*c.* 1240), a French poet, born at Lorris. Little is known of his actual life, except that he was the author of the famous mediæval poem, *Roman de la Rose*, which was finished by Jean de Meung about 1277.

Lory (*Lorius* or *Eclectus*), a genus of brilliantly coloured parrots. They are honey eaters, and the bill is but slightly curved, and the tongue long and protusible. Also a S. African name (Louri is the native name) for the white-crested plantain eater (*Corythaix*

19 in. long;
and the fea
are tipped with white; the wing feathers are brilliant carmine.

Los Andes, or Santa Rosa de los Andes, a tn. in Chile, 65 m. E.N.E. of Valparaiso, at the foot of the Uspallata Pass. Pop. 5600.

Los Andes, a territory of Argentina, covers an area of 22,000 sq. m., and was taken over by Argentina in 1899. Pop. 2300.

Los Angeles, a city of California, U.S.A., the cap. of Los Angeles c
350 m. S.E. of San Francisco. T
Spaniards took possession of it
1780, when it was already a thriving place. There is a university, a Roman Catholic cathedral, botanic gardens, etc., and the manufactures are considerable; oranges, grapes, walnuts, and cereals form the chief products. L. A. is a favourite resort for invalids, on account of its mild climate. Pop. (1910) 319,198.

Los Angeles, a tn. in the prov. of Biobio, Chile, the cap. of the dept. La Laja, and stands at an altitude of 550 ft. Pop. 19,500.

Loschwitz, a German health resort of Saxony, 3 m. E. of Dresden-Neustadt. Pop. 6300.

Los Islands, a small group lying off the W. coast of Africa, are of volcanic origin, and belong to the British colony of Sierra Leone; their names are Factory, Tamara, and Ruma.

Losonez, a tn. in Hungary, in the comitat of Nógrad, 45 m. from Waitzen, is noted for its ferruginous springs. Pop. 10,000.

Löss, *see* Loess.

Losser, a com. of the Netherlands, situated in Overijssel, 37 m. E. of Deventer. Pop. 10,099.

Lossiemouth, a seaport, Elginshire, Scotland, stands at the mouth of the R. Lossie on the Moray Firth, and has a very fine harbour. Pop. (1911) 4207.

Lossing, Benson John (1813-91), an American historian, born in Beekman, New York, and began his career as a journalist, publisher, and engraver. In 1850-52 he produced the *Pictorial Field Book of the Revolution*, which was followed in 1866-69 by the *Pictorial Field Book of the Civil War*, and of *The War of* 1812. He also published a series of school histories, a large history of the United States, a history of New York, and other similar volumes.

Lost Property. If a man loses anything, he can claim it at any time from anyone he sees in possession of it, and the one who finds the article is entitled to it next after the owner provided he comes upon it in a public place. But should the finder keep the property when he knows the owner, he is guilty of theft. So, too, is the man who discovers a valuable brooch while digging in another man's garden and fails to give it up; for the owner of private land is entitled to all found on it. But the mere keeping of a lost article, in hopes of getting a reward for giving it up, though the owner be known, does not amount to theft, and there is no obligation on the finder of L. P. to incur expense in advertising for the owner.

Lost Tribes. In 721 B.C. a large
"tes of the nor-
en tribes—were
by the Assyr-
lans under Sargon. These people subsequently disappeared from history, thus gaining the title of the L. T. Other deportations occurred, notably that under Nebuchadnezzar, of a large portion of the principal inhabitants of Judah, after the fall of Jerusalem (586 B.C.), but these are reported to have returned when Cyrus overthrew the Babylonian empire (538 B.C.), whereas no authentic account of the northern tribes is forthcoming. A very improbable theory, and one that is still held by some people, is that the English are descended from these L. T. These people assert that the Israelites were carried into Media, and they identify them with the Sacæ or Scythians, who appeared as a conquering horde
there about the same time. And then
of England.

Lostwithiel, a municipal bor. and market tn. of Cornwall, stands on the Fowey, 21 m. N.E. of Truro; it contains the ruins of Restormel Castle, built in the time of Henry III. Pop. (1911) 1373.

Lot, spoken of in Gen. xi. 27 as the son of Haran, the brother of Abraham, accompanied his uncle in the journey from their fatherland. He was allowed by Abraham to choose for himself the prosperous country in the Jordan valley near Sodom and Gomorrah. On the approaching destruction of these two cities, he and his family were led from Sodom by two angels, and an addition to the story is made, telling the fate of L.'s wife. He took refuge in the mountains near Loar, and here he became the father of Moab and Ammon by his two daughters. This incident is possibly an insertion from another story.

Lot, a dept. of S.W. France, formed in 1790 from the dist. of Quercy. The surface, which is varied, is crossed from E. to W. by the L. and is highest in the N.E. Wheat is the chief cereal, but maize, oats, and barley are cultivated to a large extent. Wine is the principal product, the most valued being that of Cahors, grown in the valley of the L. Large quantities of chestnuts come from the N.E., and the department also produces potatoes, tobacco, and hemp. The chief minerals are coal, iron, and zinc; [illegible] of Lozère, Aveyron, Lot, and Lot-et-Garonne, passing Mende, Espalion, Entraygues, Cahors, Penne, Villeneuve d'Agen, and joins the Garonne near Aiguillon. It has a length of 300 m., and the area of its basin is 4350 sq. m.

Lota, a seaport tn. in Chile, 20 m. from Arauco. It is the centre of the Chilean coal-mining, and also carries on glass-making and important copper-smelting. There is good anchorage, and even large vessels can approach quite near the shore. Pop. 5000.

Lot-et-Garonne, a dept. of S.W. France formed from parts of Guienne and Gascony. Its surface, which consists mainly of wide plains, is traversed by the Garonne from S.E. to N.W., and by the Lot from E. to W. The valleys of these rivers are exceedingly fertile, and the slopes of the low hills are covered with orchards and vineyards. The soil is highly cultivated, wheat being the chief cereal, then maize and barley. Hemp and mulberry leaves are also products of the province, and the vine covers about 9 per cent. of the surface. Minerals are few, although large quantities of iron are found. The chief town is Agen, which is also the seat of a bishopric and of the court of appeal for the department. Area 2079 sq. m. Pop. 268,083.

Lothaire I. (795-855), a Roman emperor, was the eldest son of the Emperor Louis I., who divided the empire among his sons in 817. He undertook the government of Italy in 822, and was crowned emperor at Rome in 823. He was alternately master of the empire, and banished and confined to Italy. He claimed the whole of the empire on his father's death, but was defeated by his brothers at Fontenoy (841), and by the treaty of Verdun (843) received Italy and the imperial title, together with some land in the valleys of the Rhine and Rhone. He renounced the throne in 855 just before his death.

Lothaire II. (c. 1070-1137), called 'The Saxon,' a Roman emperor, succeeded to his father's lands around Helmstadt in Saxony in 1075, and became Duke of Saxony in 1106 on the death of Magnus. He was elected king of Germany in 1125, succeeding Henry V., and was crowned emperor at Rome by Pope Innocent II. in 1133.

Lothians, The, a dist. on the S. side of the Firth of Forth which includes the cou [illegible] burgh, called Mid-Lot [illegible] formerly embraced the eastern part of the Lowlands from the Forth to the Cheviots, *i.e.* all the English part of Scotland in the 11th century.

Loti, Pierre (Louis Marie Julien Viaud) (*b.* 1850), captain of the French navy, and French novelist, born at Rochefort. He served throughout the Tongking campaign with distinction, but retired from active service in 1883. He was elected a member of the French Academy in 1891, and succeeded the celebrated romanticist, Octave Feuillet. As an author he is the very antithesis of Zola, and his works mark a revival of the spirit of romanticism in French literature. Some of his books are *Le Mariage de Loti*, 1880; *Mon Frère Yves*, 1883, a [illegible] French 1886, a fisher-folk, the most popular of all his writings; *Propos d'Exil*, 1887, a work of extraordinary merit; *Ramuntcho*, 1897; *L'Inde sans les Anglais*, 1903; *Disenchanted*, 1906; *Pélérin d'Angkor*, 1912.

Lotions, liquid washes used as remedies for bruises, sores, and enlarged joints. They are usually solutions of various salts, and differ from embrocations or ointments in that oils or fats are absent. The chlorides of ammonia, soda, and lime are common washes. Sal ammoniac with

vinegar or spirit is used for application when there is no open wound; chloride of lime or soda for ulcerated mouth and throat or tumours. Calomel in lime water, known as *black wash* is a more efficient L. for obstinate ulcers.

Lotophagi (Λωτοφάγοι, lotus-eaters), a people mentioned by Homer, who lived on the fruit of the lotus, the taste of which was so delicious that any one who ate it lost all desire to return to his native country. In historical times the Greeks came across people who used the fruit of the lotus as an article of food on the N. coast of Africa, and called them L. But it has also been said that they inhabited the large island of Meninx or Lotophagitis, adjacent to this coast. They carried on a commercial intercourse with Egypt and with the interior of Africa, using the caravan routes that are in existence to-day.

Lots, Casting, a system of divination common among primitive and civilised peoples. The most common method is by pieces of wood or straw, which are marked and covered up, one or more being then drawn out at random. Tacitus speaks of this method being used by the ancient Teutons. The Romans also made use of the famous *Sortes Virgilianæ*, which were performed by opening a copy of Virgil and drawing deductions from the first lines that caught the eye. Other books were also made use of, and the custom passed into the Christian Church. We find many canons and penitentials condemning the practice of using the gospels, psalters, etc., in this way. *See also* DIVINATION.

[illegible] Tunnel 9¼ m. gun in 1906 Pass, which the Bernese Oberland to the Lotschenberg valley in the Valais. The tunnel starts a little above Kandersteg and ends at Goppenstein. It was opened in June 1913.

Lottery, in English law, is a statutory public nuisance, though on the Continent such form of competition is both authorised and carried on by the state. The essence of a L. is the award of prizes by *lot* or mere chance, the commonest form taking the shape of money prizes for drawing a winning number. Theoretically, a competition is not a L. if some degree of skill, however slight, is requisite to securing a prize, but the adverse decisions of the High Court to the continuance of the 'Limerick craze' and 'progressive whist drives' (*see* GAMBLING) are against the theory, and indicate that if the court is either not satisfied that a particular form of competition of mixed skill and chance is conducted fairly, or thinks that the element of chance altogether predominates over that of skill, it will construe the competition as a L. Formerly state Ls. were authorised by various Acts of parliament in England, but they were dropped in 1824, and any one who allows a L. to be carried on upon his premises may be liable to a fine not exceeding £100, while any one who sells tickets for a L. is liable to a fine not exceeding £50; and in each case the offender may be dealt with under the Vagrancy Act, 1824, as a rogue and vagabond. The only kind of Ls. allowed by the law are art union Ls., conducted by societies (incorporated by royal charter) with the express object of distributing works of art; this being a special and exclusive privilege in the interests of art. On the same principle it is difficult to see why the interests of religion should not be subserved by 'raffles' and other hazardous competitions at church bazaars, but strictly all such competitions constitute Ls. Selling packets of tea or any other commodity with coupons attached entitling the purchaser to some prize of problematical value, constitutes a L., but not so 'football competitions,' *i.e.* that extremely popular if unintellectual pastime of endeavouring to win prizes by correctly forecasting the results of a series of professional football matches. It is to be noted, however, that competitions for guessing the results of football matches or forecasting any other uncertain event will or may come within the Betting Act. A L. is essentially a betting transaction, although a greater or less degree of skill may be employed, and if the proprietor of a newspaper or any other concern habitually conducts so-called 'skill' competitions at his offices and takes ready money in the shape of a preliminary deposit, he will assuredly find himself the subject of criminal proceedings. *See also* GAMING.

Lotto, Lorenzo (*c.* 1480-1556), a religious painter, born at Venice. His most celebrated altar-pieces are to be seen in the churches of the Carmine and SS Giovanni e Paolo, Venice, the cathedral of Asola, and at Monte San Giusto, near Ancona, where the church contains a Crucifixion containing twenty-three life-size figures.

Lotus, a large genus of leguminous perennials. Some of them are low and prostrate and others of shrubby habit. *L. Bertholetii* (syn. *peliorhynchus*), a valuable plant for hanging-baskets in the greenhouse, bears large red pea-shaped blooms and silvery foliage. A number of species are British; the bird's-foot trefoil (*L.*

corniculatus) is abundant in pastures, and is sometimes grown in the rock garden. Two small species occur rarely on the S. coast. The sacred L. (*Nelumbium speciosum*) is believed to have been the Egyptian L. of ancient history, though it does not now occur in Egypt (*see* NELUMBIUM).

Lotze, Rudolf Hermann (1817-81), a German philosopher, born at Bautzen. His first essay was *De Futuræ Biologiæ Principibus Philosophicis*, with which he gained his M.D. in 1838. But he laid the foundation of his philosophical system in *Metaphysik* (1841) and his *Logik* (1843). These books, however, remained unnoticed by the reading public, and he first became known as a physiologist combating the then accepted doctrine of vitalism, his physiological works being *Allgemeine Pathologie und Therapie als mechanische Naturwissenschaften* (1842 and 1848), *Allgemeine Physiologie des Körperlichen Lebens* (1851), and *Medizinische Psychologie oder Psychologie der Seele* (1852). His great work, however, was his *Mikrokosmos*, the first volume of which appeared in 1856, and this gives a comprehensible statement of his opinions on nature and man, and shows him to be essentially the philosopher of the transition from th[illegible] idealism of the first h[illegible] to the most recent materialism. This book has through four editions, and has l translated into English (1886). O notable works of his are *System der Philosophie*, *Logik* (1874 and 1880; trans. 1884), *Metaphysik* (1879, trans. 1884), and *Geschichte der Æsthetik in Deutschland* (1868). L. was professor of philosophy at Leipzig in 1842, and in 1845 was appointed to the chair of speculative philosophy at Göttingen, where he remained until 1880.

Lotzen, a tn. in E. Prussia, 70 m. S.E. of Königsberg. Pop. 6982.

Loubet, Emile (*b.* 1838), President of the French republic, 1899-1906, born at Marsanne, Drôme. He studied law, obtained his doctor's degree, and became Mayor of Montélimar in 1870. He entered political life in 1876, and showed himself to be the enemy of the Monarchist coalition. He fought the clerical system established by the Loi Falloux, and worked hard for free elementary education. He supported the Gambetta and Ferry ministers, and voted for Tongking and Tunis credits. In 1885 he became senator, and two years later was appointed Minister of Public Works. In 1892 he became Minister of the Interior, and in 1895 President of the Senate in succession to M. Challemel-Lacour. He was a warm friend of M. Faure, and on his sudden death was called upon to fill his place. During his presidency the Dreyfus case was settled, and the French ambassador was recalled from the Vatican, the separation of church and state being voted in the Chamber of Deputies.

Loudon, Gidean Ernest, *see* LAUDON.

Loughborough, a market tn. and municipal bor. of Leicestershire, on the Loughborough Canal. The principal industry is hosiery making, but engineering is also carried on, and there are iron and dye works and bell foundries. It has a grammar school founded in 1495. Pop. (1911) 22,992.

Loughrea, a market tn. of co. Galway, Ireland, 10 m. S.E. of Athenry. It is the seat of the Roman Catholic bishop of Clonfert, and has a cathedral, built 1900-5. Pop. (1911) 2507.

Loughton, an urban dist. and tn. in Essex, 5 m. from Epping. Pop. (1911) 5433.

Louis, or Ludwig (Lewis), the name of a number of German emperors from the 8th century onwards:

Louis I. ('le Débonnaire' or 'the Pious') (778-840 A.D.), son of Charlemagne, succeeded him as Roman emperor and king of the Franks (814). *See* Franck, *Ludwig der Fromme*, 1832; Frantin, *Louis le Pieux*, 1840; Simson, *Jahrbücher des fränkischen* [illegible], 1862-65.

II. (c.822-875), son of [illegible] I., associated in the govern- [illegible] 855. [illegible] *n the* [illegible] ins.), 1894-1900.

Louis III. (c.880-c.924), grandson of above, succeeded his father under his mother's regency (887), and was nominal emperor from 901-5, being deposed and blinded by Berengar I. of Italy.

Louis IV. or *III.* ('l'Enfant') (893-911), last of the Carolingians, king of Germany from 900.

Louis V. or *IV.* ('the Bavarian') (c. 1287-1347), elected Holy Roman emperor with the help of the Ghibelines (1314). He was excommunicated (c. 1324) by Pope John XXII., and later opposed by Clement VI. *See* Fischer, *Ludwig IV., der Bayer*, 1882; biographies by Burgundus (1612), Mannert (1812), Schlett (1822).

Louis, or Ludwig (Karl August) (1786-1868), King of Bavaria. He married in 1810 the Princess Therese of Saxe-Hildurghausen. He succeeded in 1825, and the early part of his reign was very successful. He initiated many reforms, and ruled on the whole for the good of his people. But during the later period he acted differently, and adopted a more or less reactionary policy. His subjects, stimulated by the Revolution of

1848, revolted and forced him to abdicate.

Louis II. (Otto Frederick Wilhelm), (1845-86), Kir
of Louis I. of
his father in
Austrian-Prus
the Austrians, but came ultimately over to the side of Prussia. He was the proposer of the formation of the German empire in which Bavaria itself was merged.

Louis IV., V., *see* FRANCE.

Louis VI., (surnamed 'Le Gros') (*c.* 1080-1137), son of Philip I., with whom he was associated in the government from 1100, succeeding him as king of France (1108). He made Suger, abbot of St. Denis, his chief minister, and did much for the defence of the Church. L. also tried to check the power of the feudal lords of the Isle de France, and was continually seeking to add lands to the royal domains. His wars with Henry I. of England for the possession of Normandy were unsuccessful. *See* Luchaire, *Louis VI. le Gros*, 1889; *Les communes françaises*, 1890; *Histoire des institutions . . . sous les premiers Capétiens*, 1891; Sismondi, *Hist. des Français*; Suger, *Vie.*

Louis VII VIII and X see FRANCE

Louis IX.
commonly
ceeded his father, Louis VIII., at the age of eleven, and the days of the regency of his mother, Blanche of Castile, were the scene of feudal reaction on the part of the nobility. Having taken over the government himself, he was successful in defeating an English army of invasion and forcing Henry III. to acknowledge the overlordships of France in Guienne. In 1249 he embarked on his first Crusade, but his army was overwhelmed and defeated in Egypt. He had already captured Damietta, but he was himself captured and held to ransom. He proceeded on his release to Acre, and remained in Palestine until 1252, when the death of his mother caused his return. His internal reforms in France were many: he founded the Sorbonne, and established a definite relationship between Rome and France by the Pragmatic Sanction; he set up the Parlement de Paris, and issued also a new code of laws. In 1270 he entered on his second Crusade, which was, however, owing to the influence of Charles of Naples, his brother, diverted to Northern Africa, and in this same year L. died at Tunis. He was canonised in 1297. A contemporary, Joinville, gives a good detailed account of many of his actions in *La Vie de St. Louis*; other biographies are by Faure, 1865, Wallon, 1893.

Louis XI. (1423-83), King of France, the eldest son of Charles VIII. Owing to his attempts on his father's throne, he was forced into exile in Burgundy, and remained there until his accession in 1461. The severity of his rule, and his obvious attempts to increase the power of the crown, led to a revolt of his feudal vassals under Brittany and Burgundy. His greatest opponent was Charles the Bold of Burgundy. He was compelled by Charles to help to put down the revolt in the town of Liège, but in turn stirred up the Flemish and Swiss towns against Charles. Charles was twice defeated, and finally killed in battle against the Swiss. Louis claimed Burgundy, but failed to maintain his claim until 1482, when by treaty Burgundy and Artois were ceded to France. His policy throughout his reign had been to weaken the power of the feudal nobility and to make the monarchy despotic. In order to do this he increased the power of the parliaments. He succeeded also in consolidating France, and in addition to the cessions already mentioned, he annexed Provence. His chief advisers were taken from the lower classes, his virtual prime minister being the barber Olivier. He was to an extent imbued with the spirit of the Renaissance, and helped art as much as he could. He also founded three universities. His later years were spent in misery and superstitious awe.

Louis XII. (1462-1515), the successor of Charles VIII.; his kindness and lack of severity gained for him the title of the 'father' of his people. Much of his time was spent in campaigns in Italy, where at the beginning of his reign he was successful in overrunning Milan and in helping in the conquest of Naples. In 1513, however, he was finally driven out of Italy, and in the same year suffered defeat at the hands of the emperor and Henry VIII. at the battle of the Spurs. By his marriage to Anne of Brittany he added the last remaining independent feudal fief to the kingdom of France.

Louis XIII. (1601-43), son of Henry IV., on whose assassination he succeeded to the throne of France at the age of nine. His mother, Marie de' Medici, acted as regent, and pursued a policy of alliance with the Catholic powers, which led to a revolt of the Huguenots. This was, however, speedily put down. The king, on being declared of age, continued the Edict of Nantes, and called the last States-general which met before the eve of the French Revolution. In 1624, Cardinal Richelieu became the virtual prime

minister and ruler of France. By the capture of La Rochelle in 1628 he finally crushed the Huguenots, although the Edict of Nantes was not revoked. Under the guidance of the cardinal, France took an active part in the Thirty Years' War, supported the Protestants against and Austria. In 1642 Richelieu and in the following year the died also.

Louis XIV. (1638-1715), the son of Louis XIII., whom he succeeded in 1643. His mother, Anne of Austria, became regent, but the chief power lay in the hands of her minister, Mazarin. The policy of the exclusion of the nobility from the chief posts in the government led to the rising known as the Fronde, which was brought to an end in 1659. In the following year L. married the Infanta Maria Theresa, and in 1661, on the death of Mazarin, L. began his long period of personal government. The keynote of the whole of his reign was despotism, his motto, 'L'Etat c'est moi,' typifies the whole of his policy. His reign witnessed a number of great internal reforms. Under the great minister, Colbert, the finances of the kingdom were reformed, trade increased, and a strong colonial policy was pursued. The financial reforms provided the sinews of war for the great wars which were fought during the reign. Under his great war minister, Louvois, his armies were reformed, and under his great generals, Turenne and Condé, the French army became the finest fighting machine in Europe. In 1667 he began the first of his wars of aggression. The war of Devolution began on the death of Philip IV. of Spain, L.'s father-in-law. In right of his wife, L. claimed part of the Netherlands. He made himself master of Flanders and the Franche-Comté. The alliance of England, Holland, and Sweden prevented his power from expanding, and in 1668 the Treaty of Aix-la-Chapelle led to the surrender of the Franche-Comté. He continued his policy of aggression, and again entered the Netherlands in 1672, his armies being led by Turenne and Condé. He overran many of the cities of Alsace, and also continued the conquest of the Netherlands. In 1678 the Treaty of Nimeguen left him in possession of the Franche-Comté, and of many of the fortresses of the Spanish Netherlands. He still continued his policy of aggression, and by means of the law courts he succeeded in obtaining many cities on the borders of Germany, amongst them being Strasburg and Metz. All sections of the government were entirely under his control, and the people held him in much the same awe as the Romans had regarded their emperors. The courts were entirely under his control, and the *lettres de cachet* were a weapon of great efficacy, and he issued altogether over 9000. In 1685 L. married his

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rm, influenced

L. to such an extent that he revoked the Edict of Nantes. This in reality marks the beginning of the fall of L.'s greatness. The persecutions of the Protestants led to the flight from the country of many of its ablest workmen, and to a great decrease in the wealth of France. In 1688 a French army invaded the Palatinate, and left William of Orange free to invade England. The war of the League of Augsburg which followed terminated by the Treaty of Ryswick, which was in reality merely a truce, and which caused L. to give up all conquests which he had made since 1678. In 1700 died Charles II. of Spain, leaving the crown of Spain to Philip of Anjou the second grandson of L. L., in spite of the Second Partition Treaty, accepted the will of the Spanish king. The emperor supported the claim of the Archduke Charles, afterwards Charles VI., and was assisted by England and Holland in the War of the Spanish Succession. The interference of England was due to the recognition of the Old Pretender by L. as James III. The War of the Spanish Succession terminated in the Treaty of Utrecht in 1713, and gave Spain to L.'s grandson, but the victories of Blenheim, Ramillies, Oudenarde, and Malplaquet had left France a ruined country, although until his death, two years after the treaty, L. continued his despotism. His reign is supreme in the age of French literature, and was productive of such men as Corneille, Racine, Molière, and Boileau, whilst religion was represented by men of the type of Bossuet and Fénelon. *See* Voltaire, *Siècle de Louis Quatorze; Mémoires de St. Simon; Life of Louis XIV.* by Hassall (1895).

Louis XV. (1710-74), King of France, sometimes called the 'Bien Aimé': he was the great-grandson of Louis XIV., whose eldest son and grandson both died in 1711. L. was just over five years of age when he succeeded, and the country was administered by the king's uncle, Orleans. The age of Orleans was noted for its vice and its profligacy, and also for the fact that peace was maintained with England, since Orleans, believing with some reason that L. would not live, desired the aid of England in establishing him-

self on the throne. In 1725 L. married the daughter of the deposed King of Poland, and after the death of Orleans, his chief minister was Cardinal Fleury. In the War of the Polish Succession, France succeeded in establishing the claims of L.'s father-in-law to the Polish throne. During the War of the Austrian Succession, the French supported the claim of the Elector of Bavaria to the throne of Austria in lieu of Maria Theresa. They were repeatedly successful on land, but their trade and navy were ruined by the English. The great duel in India and America between England and France may be said to begin here. The financial state of France, however, was chaotic, and all the money which could be obtained was lavished by L. on his mistresses, especially on M. de Pompadour, and later on Madame du Barry. The country was overtaxed, and was further humiliated by the practical conquest of all the French possessions in India and America during the Seven Years' War. The peace of Paris (1763) definitely deprived France of the nucleus of her colonial empire. Towards the end of the reign the Parlement de Paris attempted to wrest some of the privileges of the crown from it, but was finally unsuccessful, and France, on the death of L., was bankrupt and ready for revolution. *See* Voltaire's *Siècle de Louis XV.*

Louis XVI. (1754-93), King of France, the grandson of Louis XV. He was the third son of Louis XV.'s only son, and succeeded on the death of the monarch owing to the previous death of his father and elder brothers. During the reign of Louis XV., a diplomatic movement, usually known as the Diplomatic Revolution, had taken place; by this Austria and France, hitherto violent enemies, became allies, and in order to strengthen the bands of the alliance, in 1770 L. married the daughter of Maria Theresa, Marie Antoinette. L. succeeded to a bankrupt kingdom, and the early years of his reign were spent in attempting to cleanse the Augean stables of badly managed finance. The state had a national debt of over 4,000,000,000 of livres, and the people paid altogether well over 50 per cent. of their income in taxes. The king agreed to many minor reforms, but was prevented by the Church and the nobility from accepting greater reforms urged on by Turgot. Necker succeeded in straightening the finances of the country to a certain extent, but again a proposal to tax the classes who were excluded by privilege led to such violent opposition that he resigned. Matters went from bad to worse, and a new lease of life was given to the aristocracy by the administration of Calonne. Brienne succeeded him but did nothing, and finally it became apparent that the States-general, which had not met since 1614, would have to be called. The state had by this time stopped all money payments, and Necker had again attempted to put an end to the financial embarrassments. It must be remembered that few, if any, of the grievances of people were due directly to L., who was personally popular and who desired to do his best for his people. In May 1789 the States-general met, the Third Estate having been called in doubled numbers. The Third Estate speedily took upon themselves the rectifying of grievances and formed themselves into a national assembly. Proclaiming a new constitution, they gained for themselves the title of the Constituent Assembly, and the Revolution had begun. The king refused to accede to their demands for *liberté, egalité, fraternité*, and retaliated by dismissing Necker and calling out the troops. By August the assembly had declared the equal rights of man and had practically abolished private property. Many of the nobles and many scions of the royal house fled. In October Versailles was attacked, and L. and his family forced to take up residence in Paris. The next two years were spent by the assembly in experimenting with constitutions, and the king and his family, in 1791, got away to Varennes only to be brought back as prisoners to Paris. In 1792 the king's hand was forced, and he was compelled to declare war against Austria. The arrogance of the assembly was rapidly making every country in Europe hostile, and in September 1792 the republic was proclaimed. The invasion from Prussia caused great alarm, and was one of the chief causes of the proclamation of the republic. In December 1792 the king was brought to trial for treason against the republic, was sentenced to death, and executed on January 21, 1793. He was guillotined in 'La Place de la Revolution.'

Louis XVII. (1785-95), titular King of France, the second son of Louis XVI., became dauphin on the death of his elder brother in 1789. He remained a prisoner after the death of his father. He was at first imprisoned with his mother, but was later removed to the Temple and placed under the charge of the now infamous Jacobin bootmaker named Simon. Many stories are related of

the revolting cruelty of his keeper, and also of his alleged escape. It seems now definitely fixed that he died in 1795. He has been personified most notably by a Prussian named Karl Wilhelm Naundorf, whose resemblance to the Bourbons was striking. This pretender made his way to France in 1833, but was later expelled. His children kept up the claim for a time.

Louis XVIII. (Stanislas Xavier) (1755-1824), King of France, the younger brother of Louis XVI. He claimed the title of king of France after the death of Louis XVII. in 1795. He continued in exile, ... Buckinghamshire in Englar... Napoleon's first abdication ... when he crossed to Calais ... sumed the throne of Fran... was thoroughly reactionary, and the severity of his measures did much to ensure a good reception for Napoleon during the Hundred Days. Louis and his family at this time fled to Ghent, and remained there until after Waterloo. On returning to France Louis promised amendment, and for a time seemed likely to keep his promise. But the excesses of the Royalists kept France continually in a state of anarchy, and the king was finally compelled to accede to the wishes of the Royalists.

Louis, Sir Thomas (1759-1807), a British admiral, born at Exeter, Devonshire. Entered the navy in 1770. In 1778 he served in the action off Ushant, and in 1780 was present at the defeat of Langara off Cape St. Vincent. In 1794 he was placed in command of the *Minotaur*, which in 1797 was sent to join the Mediterranean fleet off Cadiz, and in 1798 was one of the ships sent to reinforce the small squadron under Nelson at the battle of the Nile. L. continued to serve under Nelson during 1799. In 1805 he again joined Nelson off Toulon, but through being sent with a detachment of six ships to provision the fleet at Gibraltar, was not present at the battle of Trafalgar. In 1806 L. went to the W. Indies, and was present at the battle of San Domingo as second in command under Duckworth, being rewarded with a baronetcy for his services He died the following year on board his ship, the *Canopus*, off Alexandria.

Louisa Augusta Wilhelmina Amelie (1776-1810), Queen of Prussia, a daughter of Karl, Duke of Mecklenburg-Strelitz, born at Hanover, and in 1793 married the prince-royal of Prussia, later Frederick William III., and became the mother of Frederick William IV. and William III., afterwards emperor. She endeared herself to her people by her spirit and energy, and particularly distinguished herself during the Napoleonic campaign by her self-denying efforts to obtain concessions at Tilsit from Napoleon. The Prussian order of Luise was instituted in her honour, and also the Luise foundation for the education of girls. A statue of Queen Louisa was erected in the Thiergarten at Berlin in 1880. *See* E. Engel, *Königen Luise*, 1876; Hudson, *Life and Times of Louisa, Queen of Prussia*, 1874, and Lives by Horn (1883), Martin (1887), and Moffat (1906).

Louisburg, a tn. in Cape Breton Is., Canada, on the Atlantic coast, com... ...ntrance to the Gulf of ... 27 m. S.E. of Sydney. ... more than a fishing ...der the French had ... t trade in cod, and ... was the strongest fortress in N. America. In 1758 Wolfe took L. and advanced to the capture of Quebec. It possesses a very fine harbour, employed for the winter export of coal. Pop. about 1600. *See* Bourinot's *Memorials of the Island of Cape Breton*, 1892.

Louis-d'Or, a French gold coin first issued by Louis XIII. in 1640, and discontinued in 1795. Its value varies at different times from 10 francs to 20 francs.

Louise, Caroline Alberta, Princess ... ...he fourth ... married ... ...ow ninth Duke of Argyll) in 1871. Princess Louise is a talented sculptor, the statue of Queen Victoria in Kensington Gardens being her work. She is also a member of the Royal Society of Water-Colour Painters.

Louisiade Archipelago, a group of islands at the south-eastern extremity of British New Guinea, St. Aignan and Southeast being the largest. They are all of a mountainous nature and covered with vegetation, the inhabitants being very wild, and partaking of both Malayan and Papuan characteristics. The islands were discovered in 1606, and taken by the British in 1888. Alluvial gold has been found.

Louisiana, one of the S. central states of U.S.A., bordering the Gulf of Mexico, covering an area of 48,700 sq. m. It was admitted to the American Union in 1812. The surface of the state, generally, is not very much above sea-level, but there are extensive tracts of undulating ground in the northern sections. Swamp lands form a large portion of the great delta of the Mississippi. The state has a large number of rivers, creeks, bayous, and lakes, and is thus well watered. The principal river, after the Mississippi, is the

Red R. Forests cover a great part of the state, and the geological formations belong to the Tertiary and Quaternary periods. The climate is semi-tropical and unhealthy in the lowlands, and the soil is exceedingly fertile, except in the extreme N. The chief manufacturing industries of the state are those of sugar and molasses; sugar, cotton, and rice being the staple agricultural products. The chief mineral products are rock-salt, sulphur, clay beds, and petroleum. Farming is a leading industry, the cultivated area being 16 per cent. of the total. The capital is Baton Rouge, and other important towns are New Orleans, Shreveport, and Lake Charles. Pop. (1910) 1,656,388. *See* Johnson's *Highways and Byways of the Mississippi Valley*.

Louis Philippe (1773-1850), King of the French. The eldest son of the Duke of Orleans, together with whom, at the time of the French Revolution, he gave up his title and assumed the name of Egalité. During the early revolutionary campaigns he fought for the republic, but finally fell under suspicion and was threatened with arrest. He fled to Austria, and did not again enter France until the Restoration. He was a teacher in Switzerland; he visited the U.S.A., and finally, about the beginning of the 19th century, settled at Twickenham He married, in 1809, the daughter of Ferdinand, the King of the Two Sicilies, and returned to France in 1815. He became exceedingly popular in Paris, and after the Revolution of 1830 was elected king, having first taken the title of lieutenant-governor. During the early period of his reign France flourished exceedingly, but the country, and especially the politics, were exceedingly corrupt. Gradually there began to be a great outcry raised against this, and force of circumstances drove the king to reactionary courses. The liberty of the press was restricted, and trials were tampered with. The power of the king was great, but nevertheless the reforming party gradually increased. Twice had Louis Napoleon entered France as a pretender, but with no success. Attempts were finally made to stamp out the reforming party, but this led to the Revolution of 1848. The Paris mob rose, and aided by the complicity of the army and the police were successful in compelling the king to abdicate, although he for his part promised redress, and dismissed his prime minister, Caizot. He fled to England where two years later he died at Claremont on Aug. 26.

Louisville, a city in Jefferson co., Kentucky, U.S.A., on the l. b. of the Ohio, 100 m. S.W. of Cincinnati. It is connected with New Albany and Jeffersonville by three fine bridges, and is an important river port. It is one of the greatest manufacturing cities of the S., and as a leaf-tobacco market leads the world. It has numerous manufactures of oak-tanned sole leather, pork packing, iron, and other leading industries. L. possesses several important buildings, among which are the custom-house, court-house, and city-hall, and its educational institutions include the university, Polytechnic Society of Kentucky, and law, medical, and other schools. Pop. (1910) 223,928.

Loulé, a fortified tn. of Algarve, Portugal, 6 m. N. of Faro. It has copper and silver mines, and the principal industry is basket-making. Pop. 23,000.

Louping Ill, or Sheep Staggers, a common disease of sheep in Scotland and Northumberland, appearing in spring. The symptoms are a staggering, jerky gait, staring eyes, followed by convulsions, paralysis, and death. The disease has been investigated in recent years, notably by the late Professor Hamilton of Aberdeen, but the actual cause is still uncertain. Professor Hamilton attributed it to the presence of a coarse, rod-shaped bacillus in the fluid in the peritoneal cavity and in the intestines, but recent investigation suggests that this is merely a putrefactive organism. The application of half a ton of crushed salt per acre to pastures has greatly reduced the losses by the disease. Drenches of cultures from diseased animals have been administered with good results in Ireland.

Lourdes, a tn. in dept. of Hautes-Pyrénées, S.W. France, at the foot of the Pyrenees, on the r. b. of the Gave de Pau, 90 m. S.E. of Bayonne. It is divided into an old and new town, united by a bridge, leading to the church of the Rosary and the Grotto, with its spring of healing water, with which the present fame of L. is associated. This celebrated spring is credited with miraculous powers, and in 1889 a church was built for the accommodation of pilgrims, about 500,000 of whom visit the place every year. The chief of the pilgrimages, known as the national pilgrimage, takes place in August. *See* G. Mare's *Lourdes et ses environs*, 1894; W. Leschner, *The Origin of Lourdes*, 1900; and Zola's *Lourdes*, 1894.

Lourenço or Lorenzo Marques: 1. A dist. in the S. of Portuguese E. Africa. It is traversed by the Rs. Lunde and Limpopo, and is divided into five sub-districts, the gold-bearing territory of Manica being one. 2.

Cap. of the Lourenço dist., Portuguese E. Africa, in the N.W. of Delagoa Bay. It is the terminus of the Delagoa Bay Railway penetrating to Pretoria. It was founded as a factory by the Portuguese in 1544. The town has a good harbour and many fine buildings, and a gold-field was proclaimed in the district in 1890. Pop. about 9900.

Lousewort, *see* PEDICULARIS.

Louth, a tn. in the Lindsey div. of the R. Lud. There are ruins of a Cistercian abbey at Louth Park. Agricultural implements are manufactured, and there are also iron-foundries, breweries, brick-fields, etc. It communicates with the Humber by means of the Louth Canal (1763). Pop. (1911) 9883.

Louth, a maritime co. of Ireland in the prov. of Leinster, bounded E. by the Irish Sea. The surface generally is low and undulating, with a high mountain range in the N.E., bordering Carlingford Lough. On the coast are the watering-places of Carlingford and Greenore with Dundalk facing the bay of that name. The chief rivers are the Fane, Lagan, Glyde, and Dee, with the Boyne forming part of the S. boundary. The soil is good, and agriculture flourishes; cattle and sheep are reared, and oats, barley, flax, potatoes, and turnips are grown. The manufacture of linen is carried on, and the deep-sea fisheries and salmon fisheries are extensive, including oyster beds in Carlingford Lough. Passenger steamers run regularly from Greenore to Holyhead. The county is divided into six baronies, and has two parliamentary divisions, each returning one member. It is rich in ancient buildings and remains. The area of the county is 316 sq. m. Pop. (1911) 63,402. The tn. of Louth from which it takes its name has now passed into decay, and contains some fine ruins.

Loutherbourg, Philipp Jacques de (1740-1812), a French painter, born at Strasburg. His father, a miniature-painter, settled in Paris, and placed his son under the tuition of Tischbein and F. Casanova. L. gained universal admiration, and in 1768 he was admitted a member of the French Academy, and later appointed court painter to the king. In 177[illegible] settled in England, and designed scenes and decorations of Drury Theatre. In 1781 he became an [illegible]. Among his most noted pictures [illegible] 'The Defeat of the Spanish Armada,' 'The Fire of London,' 'View of Skiddaw,' 'Landscape and Cattle,' 'Thunderstorm,' etc.

Louvain, or **Löwen**, a city in the prov. of Brabant, Belgium, 15 m. E. by N. of Brussels, on the Dyle. There are many public buildings of note, amongst which are the town hall (1447-63), the church of St. Peter, the Salle de Frascati, and the new university, established in 1835. Brewing, distilling, and the manuf. of tobacco are chiefly carried on. Pop. 42,000.

Louvière, La, a tn. in the prov. of Hainaut, Belgium, 10 m. W.N.W. of Charleroi. Has collieries and establishments for the manuf. of earthenware and railway material. Pop. 20,000.

Louviers, a tn. in dept. of Eure, France, one of the principal centres of French woollen manufs., 17 m. S. of Rouen. Pop. 10,300.

Louvois, François Michel Le Tellier, Marquis de (1641-91), a French statesman and war minister under Louis XIV., born at Paris. Turenne perceived his talents in the war of Devolution, and after the peace of Aix-la-Chapelle, he was set to reorganise the French army. He founded the military orders of merit, the Hotel des Invalides, and the French standing army. L. was one of the greatest of the rare class of war ministers. *See* Rousset's *Histoire de Louvois*, 1872.

Louvre, or **Louver** (Fr. *l'ouvert*, the opening), an ornamental turret on a roof for the escape of smoke or steam. Nowadays they are frequently used in the shape of sloping boards overlapping each other with a space between for ventilation.

Louvre, The, the greatest of the modern palaces of Paris, forming a square of 576 ft. by 538 ft., was connected with the Palace of the Tuileries by a great picture-gallery overlooking the Seine and 1456 ft. long. Between the two palaces lay the Place du Carrousel, and Napoleon III. further connected the two palaces on the northern side making them into one vast palace. The L. is erected on the site of an old 13th-century château; the first part of the modern structure, the S.W. wing, was built, after the designs of Pierre Lescault, in 1541; while the main portion of the square was built by Louis XIV. after the design of Claud Pérrault. After the building of the Tuileries the L. proper became a series of great [illegible] 71, which destroyed [illegible] burnt the corner of the L. which contained the library. *See* PARIS.

Lovat, Simon Fraser, twelfth Lord (c. 1667-1747), a Scottish Jacobite. He was a born traitor and deceiver, and though professing loyalty to the

Stuarts, one of his first acts on leaving college was to raise 200 men from his clan to form part of a regiment in the service of William and Mary. In 1698 proceedings were taken against him and his clan, and he was declared guilty of treason and fled to France. On his father's death, the following year, he assumed the title of Lord L. In 1702 he was at the court of St. Germain, and one of his first steps towards gaining influence in France was to announce his conversion to the Catholic faith. In 1713, at the request of his clan, he returned home, and though arrested in London (1714) he was liberated, and by siding with the government, obtained a full pardon. In the rebellion of 1745 he made false professions of fidelity to the government, and after the battle of Culloden was forced to retreat to the Highlands to seek concealment. Although broken down by disease and old age, L.'s mental resources did not fail him. He called together the Jacobite leaders and proposed that they should raise 3000 men, thus rendering their mountains impregnable, and force the government to grant them advantageous terms. The project failed, however, and after innumerable hardships and wanderings, L. was finally arrested on an island in Loch Morar, and was tried and executed in his eightieth year, on Tower Hill, March 1747. L. is an example of the incarnation of the clan system at its worst. He was a ruffian, traitor, and hypocrite, though at the same time a finished courtier and good scholar. One of his greatest private outrages was the rape and forced marriage of the widow of the tenth Lord L., with the view of securing his own succession to the estates. See *Memoirs of Lord Lovat*; J. H. Burton, *Life of Simon, Lord Lovat*; A. Mackenzie, *History of the Frasers of Lovat*, and Mrs. A. T. Thomson, *Memoirs of the Jacobites*, 1845-46.

Lovat, Simon Joseph Fraser, sixteenth Baron (*b.* 1871), succeeded to the barony in 1887. He served in S. Africa in the early stages of the Boer War, and raised a corps, designated 'Lovat's Scouts,' with himself in command, whose services were favourably reported upon by Earl Roberts and Viscount Kitchener. On returning from Africa he raised two yeomanry regiments, which form part of the present 'Highland Mounted Brigade.' His 'Scouts' now form the 55th company of the Imperial Yeomanry. In 1900 Lord Lovat received the D.S.O., and two years later was made a C.B. and C.V.O. for his services.

Love. In its most common use the term denotes a concentration of tender feeling upon one particular person, most commonly the affection existing between parent and child, and that affection between two persons of opposite sex which forms the normal basis of marriage. It manifests itself in a desire for the welfare of the beloved object, in a longing for his presence and delight in his approval, and sorrow at parting. The term is less often used for the animal instinct between the sexes and its gratification, with its analogues in the lower animal world. No word has so little preciseness of meaning and so great an elasticity of definition. Leibnitz's definition that to L. is 'to be carried away to take pleasure in the well-being or happiness of the loved being,' restricts the emotion to protecting L. Socrates distinguishes between heavenly and vulgar L., and utterly condemns the latter, and Plato follows in his steps. 'Platonic love' is the affection between two persons of opposite sex that is free from all sexual desire, that is a striving after the infinite and a lowly adoration of perfect beauty. Aristotle, searching after the psychological basis of the emotions, found in L. not a metaphysical principle, an aspiration after perfect beauty, but a natural physical bond between the sexes designed for the procreation of children. *See* Bain's *The Emotions and the Will*, 1859, and *Mental and Moral Science*, 1868; Michelet, *L'Affranchissement moral parle véritable amour*, 1858; Krafft-Ebing's *Psychopathia Sexualis* (Eng. trans., 1899); Darwin's *Descent of Man*, 1871; and Schopenhaur's *Metaphysics of Love*.

Lovedale, an educational institution and mission station in Cape of Good Hope, 30 m. N.W. of King William's Town. Founded in 1841 by Scottish missionaries. Its special object is the training of teachers for native schools.

Lovelace, Richard (1618-58), an English lyrical poet, born at Woolwich, Kent. He spent his fortune in support of the royal cause, and though he could have shone at court, preferred warfare. In 1615 he took up arms on the king's behalf, and the following year was imprisoned till the king's death, thus obtaining leisure for verse-making. During his imprisonment he wrote the song by which he is best remembered, *To Althea, in Prison*, and collected and revised for the press a volume of occasional poems. In 1649 they were published under the title of *Lucasta*. He also wrote, when quite a young man, a comedy and a tragedy, entitled respectively, *The Scholar*, and *The Soldier*. The last ten years of his life were passed in obscurity. A

volume of his *Posthume Poems*, was published in 1659 by his brother, and an edition of collected poems by [illegible] n English friend of Coleridge and Southey. His early death prevented the realisation of the 'pantisocratic' project entered into with these poets. In 1745, in conjunction with Southey, L. published *Poems by Bion and Moschus*.

Lover, Samuel (1797–1868), a novelist and poet, achieved fame in 1826 with the well-known ballad of *Rory O'More*, which was, and is still, very popular. His best novel is the farcical *Handy Andy* (1842), which achieved a great success, and this almost alone of his works of fiction is still read, but now principally by boys. *Rory O'More, A National Romance* (1837), and *Treasure Trove* (1844), being almost entirely forgotten. He wrote many songs and several plays, and one of the worst volumes of [illegible] *ll Rhymes* [illegible] by Bayle Bernard, 1874.

Lovetch, or Lovatz, a tn. of Bulgaria, on the Osma, 20 m. S.S.E. of Plevna. Pop. 7000.

Low, Sir John (1788-1880), a general in the Indian army and political administrator, born near Cupar, Fifeshire. In 1804 he obtained a Madras cadetship and the following year was appointed lieutenant in the 1st Madras Native Infantry, going through the various grades, and rising in 1867 to the rank of general. During his early years he saw varied military service, and at Lucknow and Hyderabad he had the control of large local contingents of native troops. He received the E. India War medal with clasps, the British War medal for Java, and the Mutiny medal.

Low, Sir Robert Cunliffe (1838-1911), a British general, born in Fifeshire. In 1854 he received a commission as cornet in the Indian army, and was attached to the 4th Bengal Cavalry. During the Indian Mutiny he was present at the siege and fall of Delhi, and was mentioned in despatches. During the Afghan War (1879-80) Lord Roberts made him director of the transport service, and for his services on the march from Kabul to Kandahar he was rewarded with the C.B., medal with clasp, and bronze star. In 1886 he was detached for service in Upper Burma, and had the command of a brigade, being rewarded with a K.C.B. for his services. In 1895 he was nomina[illegible] of the Chitra[illegible] 1896 was pre[illegible] and G.C.B.

Low Archipelago, Paumotu, or Tuamotu (Pearl or Dangerous Islands), the most easterly group of the Polynesian Is., in the Pacific, consisting of about eighty low coral islands with an area of 350 sq. m, of which there are rich pearl-fisheries. They were discovered in 1606 and officially annexed to France in 1881. Pop. 3000.

Low Countries, a dist. in N. Europe, comprising [illegible]

Lowe, Si[illegible] (1830-1908), born at L[illegible] served in the Crimea (1855-56), the Indian Mutiny (1858-89), the Zulu War (1879), and the Boer War (1881). Made his reputation in the Egyptian War of 1882, when he became a major-general and commander of cavalry in the field. He was four times mentioned in despatches, received the thanks of both houses of parliament, and was made a K.C.B. in 1882.

Lowe, Edward Joseph (1825-1900), an English botanist, born at Highfield, near Nottingham. In 1846 he published a *Treatise on Atmospheric* [illegible]*e* first to point [illegible] f meteors to a [illegible] In 1853 he issued the first parts of the well-known *Natural History of British and Exotic Ferns*, followed shortly by *British Grasses, Beautiful Leaved Plants, New and Rare Ferns*, and *Our Native Ferns*. He was a fellow of the Royal, Royal Astronomical, Geological, Linnean, and Royal Horticultural societies.

Lowe, Sir Hudson (1769-1844), an English general, born at Galway. He entered the army in 1787, and in 1793, after the outbreak of the war with France, saw active service in Corsica, Gibraltar, Minorca, and Egypt. In 1812 he returned to England, and three years later was appointed custodian of Napoleon and governor of St. Helena, a post which he retained till Napoleon's death in 1821. Charges of rigour and even cruelty to his prisoner have been brought against him, though most of them have been completely refuted. From 1825-30 he commanded the forces in Ceylon. *See* W. Forsyth, *History of the Captivity of Napoleon at St. Helena*, 1853; R. C. Seaton, *Napoleon's Captivity in Relation to Sir Hudson Lowe*, 1903; and Rosebery, *Napoleon, the Last Phase*. 1900.

Lowe, Robert, first Viscount Sherbrooke, *see* SHERBROOKE.

Lowell, a city of Massachusetts, U.S.A., on the Merrimac R., 26 m. [illegible] W. of Boston. The river falls [illegible] great hydraulic power. There [illegible] number of cotton and woollen factories and manufactures of leather,

paper, and iron goods. The chief institutions are a public library, textile school, state normal school, and Roger Hall school. Pop. (1910) 106,294.

Lowell, Abbott Lawrence (*b.* 1857), president of Harvard University, U.S.A., elected in 1909. His influence has been since then strongly felt in the educational world of America, and more modern methods of education have been pursued at Harvard. Professor of history for many years at this university and of great reputation as a historian. His best-known book is *The Government of England*. He is descended from Judge Lowell of New England fame, and is a distant connection of the poet Lowell. His mother was the famous Miss Lawrence, renowned for her beauty and culture in Bostonian society.

Lowell, James Russell (1819-91), an American poet born at Cambridge, Massachusetts, son of the Rev. Charles L. He was admitted to the bar, but took little interest in his profession, and was always contributing poems and prose articles to various magazines. He was attracted to the steady pursuit of literature largely through the influence of Maria White, a poetess of delicate power, to whom he became betrothed in 1840. The outcome of this was a volume of poems entitled *A Year's Life*. Three years later he published a collection of his poems, and *Conversations on some of the Old Poets*. He married in 1845, and went to Philadelphia for a time, where he became editor of *The Pennsylvania Freeman*, a fortnightly journal devoted to the anti-slavery cause. In 1848 he published a further edition of his poems with some new ones added, including 'To the Dandelion,' 'The Changeling,' 'A Fable for Critics,' 'The Vision of Sir Launfal,' a romantic story suggested by the Arthurian legends, and one of his best-known poems, and 'The Biglow Papers,' a reprint of dialect poems furnished to the newspapers of the day, satires of an effective nature, which attracted a great deal of attention. In 1851 L. sailed for Europe, with his wife, whose health was failing, and spent a year, chiefly in Italy, in study and travel. Mrs. L. died in 1853. Two years later, L. became professor of modern languages and literature at Harvard, and spent a couple of years in Europe to prepare himself more fully, being appointed to the chair at Harvard in 1857. In this year he married *en secondes noces* Miss Frances Dunlap. From this time till 1862 he was editor of the *Atlantic Monthly*. He was United States minister in London from 1880-85. His essays are marked by great literary refinement. *Fireside Travels*, *My Study Windows*, *Among my Books*, etc., all have descriptive and critical articles of permanent value and charm. *Latest Literary Essays* appeared in 1892. *See* H. E. Scudder. *Life*, 1901.

Lowell, Percival, brother of Abbott Lawrence L., and an astronomer of some repute. Author of *Mars and its Canals*, and other astronomical treatises, which raised controversial dispute. His private observatory at Flagstaff, Arizona, is the second largest in America.

Lowell Institute, an educational establishment of Boston, Massachusetts, U.S.A., endowed by John Lowell, jun., who died in 1836. It provides for free public lectures of two kinds, viz. popular, covering almost every subject, and advanced, of a more abstruse and erudite nature.

Lowenberg, a tn. in Silesia, Prussia, 26 m. W.S.W. of Liegnitz, on the Bober. Chief trade is in textile manufactures. Pop. 6341.

Lower Austria, *see* AUSTRIA, LOWER.

Lower Merion, a tn. in Montgomery co., Pennsylvania, U.S.A., close to Philadelphia. Pop. (1910) 17,671.

Lowestoft, a seaport and municipal bor. of Suffolk, England, 118 m. N.E. of London. It has rapidly developed into a favourite holiday resort, and its fisheries are important. It is within easy access of the Broads. The older part of the town is built on a cliff overlooking the sea, while the modern part has a fine esplanade 800 yds. long and two fine piers. There are various industrial establishments, and shipbuilding is carried on. Pop. (1911) 33,780.

Lowicz, a tn. in Poland, Russia, 48 m. W.S.W. of Warsaw. It has a technical school and a gymnasium. Pop. 12,500.

Lowland, a general term in physical geography for any broad expanse of land with a low level, not rising more than 600 to 1000 ft. above the sea. The term is applied to a region of depression in the interior of a mountainous region, or in fact to any region that presents a contrast to a highland, such as the Ls. of Scotland. The area of Ls. is about 15,500,000 sq. m., or nearly three-tenths of the total land-surface, and they probably support at least six-tenths of the inhabitants of the world. They present every variety of vegetation, and where climate and drainage permit are easy to exploit and traverse. There is 55 per cent. of L. in Europe, 36 per cent. in Australia, and only about 15 per cent. in Africa, mainly in the N. and W. of the Sahara.

Low Latin, properly the Latin of the middle ages, but more often used in a general sense for the Latin spoken

and written after the fall of the Roman empire as well. Deterioration in the form of the language had begun even in Cicero's time, but it rapidly grew from bad to worse until the different divisions of the empire formed distinct varieties, finally developing into the modern Romance tongues.

Lowndes, Thomas (1692-1748), an English astronomer, founder of the

marshal of S. Carolina in 1725, but filled this post by deputy.

Lowndes, William Thomas (c. 1798-1843), an English bibliographer, to whom we owe *The Bibliographer's Manual of English Literature*, the first systematic work of the kind (2nd ed. 1857-64), and *The British Librarian*, 1839, designed to supplement his early manual, but uncompleted.

Low Sunday, the first Sunday after Easter, so called because it ends the octave of the Easter festival, some parts of the solemnity of which great feast were repeated on this day, thus celebrating it as a festival itself, though of a lesser order than that of Easter-tide. Probably 'Low' is a corruption of 'Laudes,' the first words of the sequence of the day being 'Laudes Salvatori,' thus naturally 'Laudes Sunday' corrupted into 'Low Sunday.'

Lowth, Robert (1710-87), an English divine and Orientalist, born at Winchester. In 1741 he became professor of poetry at Oxford, and in 1750 was appointed to the archdeaconry of Winchester. He became rector of E. Woodhay two years later, and in 1755, prebendary of Durham, and rector of Sedgefield. He published his *Life of William of Wykeham* in 1758, and *A Short Introduction to English Grammar* in 1762. He was consecrated Bishop of St. Davids in 1766, soon afterwards being transferred to Oxford, and in 1777 becoming Bishop of London. L. was one of the first to treat the Bible poetry as literature, and in 1778 wrote *Isaiah, a new Translation, with a Preliminary Dissertation, and Notes, Critical, Philological, and Explanatory.* See *Life and Writings of Bishop Lowth*, 1787, and an edition of his *Popular Works*, 1843.

Lowth, William (1660 – 1732), a theologian, born in London. In 1699 he was presented to the benefice of Buriton with Petersfield, Hants, which living he held till his death. L. is chiefly remembered by his *Commentary on the Prophets*, and he also published *Vindication of the Divine Authority of the Old and New Testaments*, 1692, and *Directions for the Profitable Study of Holy Scripture.*

Lowther, James (1840-1904), an English politician, born at Leeds. Called to the bar in 1864, but never practised. He entered upon his parliamentary career in 1865 as M.P. for York, and was re-elected at the General Election of 1868, opposing Gladstone's government in parliament. Under Disraeli's administration (1874) L. was Under-Secretary for the Colonies, in 1878 being transferred to the Irish Office as Chief Secretary, which appointment he held till the General Election of 1880, when he lost his seat at York. In 1888 he was again returned to parliament for the Thanet division of Kent, and retained this seat till his death in 1904. L. was a sportsman as well as politician, and a prominent member of the Jockey Club.

Lowther, James William (*b.* 1855), an English politician and Speaker of the House of Commons. He was called to the bar in 1879, and in 1883 was returned to parliament as a Conservative for Rutland. Since 1886 he has represented the Penrith division of Cumberland. In 1891 he was Under-Secretary for Foreign Affairs; in 1895 chairman of Ways and Means, and Deputy-Speaker, and in 1905, on the retirement of Mr. Gully, he was elected Speaker of the House of Commons.

Loxa (Spain), *see* LOJA.

Loxia, *see* CROSSBILL.

Loyalists, United Empire, the name applied to those who remained loyal to the British government at the time of the revolutionary war in America. They migrated to Canada, after the United States had secured independence, and formed the greater part of the population of Ontario and New Brunswick, which they founded. *See* Van Tyne, *The Loyalists in the American Revolution*, 1902.

Loyalty Islands, a group of islands in the Pacific, E. of New Caledonia, consisting of three large islands, viz. Lifu, Maré, and Uea, and several smaller islands, having a total area of about 800 sq. m. They are an administrative dependency of New Caledonia, and have belonged to France since 1864. Bananas are largely cultivated, and sandal-wood is exported. The climate is healthy. Pop. about 15,000.

Loyola, Ignatius de—Inigo Lopez de Ricalde (1491-1556), founder of the Society of Jesus, was the thirteenth and youngest son of a Spanish nobleman, and was born at the castle of Loyola in the Basque province of Guipuzcoa. After serving as a page at the court of Ferdinand and Isa-

bella, he embraced a soldier's career, which, however, he was obliged to renounce in 1521, owing to a wound received at the siege of Pampeluna. The accident made him lame for life. It was during the wearisome convalescence that his nature underwent one of those curious metamorphoses which affected Francis of Assisi, and to a certain extent Tolstoi. In the army he had been distinguished for his courage and force of character, but on the other hand he had freely gambled and amused himself with women. When his sickness left him, the ardour of his nature was animated only by the highest religious aspirations, and after a period of mental unrest, during which he practised fasting, scourging, and other austerities, and was a victim to a host of morbid sentiments, he eventually found his way as a pilgrim to Jerusalem (1523). This journey was followed by years of patient study at Alcala, Salamanca, and from 1528 at Paris. In 1534 a band of seven students, among them Francis Xavier, [illegible] Diego Laynez, gathered toget[illegible] ship of L., in t[illegible] on Montmartre, and having taken the vows of chastity and poverty, swore either to prosecute a ministry in the Holy Land or to serve the pope where he directed. In 1537 Ignatius was ordained priest at Venice; in 1540 he obtained the sanction of Pope Paul III. for his Society of Jesus, and the following year he was chosen its first general, an office he held till his death, although again and again he expressed his longing for a life of solitude and prayer. His face is a key to his character; the lofty forehead suggests that intellectual grip which enabled him to frame his *Exercitia Spiritualia* and those *Constitutions* which are to this day the basis of the organisation of his society (*see* JESUITS). He was canonised in 1622, and his day is July 31.

Loyson, Charles, see HYACINTHE, PÈRE.

Lozère, a southern dept. of France, formerly part of the old prov. of Languedoc. The surface is exceedingly mountainous and is traversed by the Cevennes and other ranges. A peak of the former attains an elevation of 5600 ft. On the mountain slopes, looking towards th[illegible] valley, cattle and sheep ar[illegible] and the olive, vine, and [illegible] are cultivated. The rearing [illegible] worms and the manuf. of cheese are important industries, [illegible] are one of the leading [illegible] mineral wealth consists [illegible] copper, and antimony. Mende is the capital of the dept. Area 1996 sq. m. Pop. 122,738.

Luang-Prabang, a fortified tn. of French Indo-China, on the l. b. of the Mekong, situated in the midst of a forest of palm trees, and surrounded by mountains. Pop. 12,000.

Luapula, *see* CONGO RIVER.

Lubao, a pueblo of Luzon, Philippine Is., 5 m. S.W. of Bacolor, situated in a rice and sugar district. Pop. 20,000.

Lübben, a tn. of Prussia in Brandenburg, 47 m. S.E. of Potsdam, on the Spree. Pop. 7802.

Lubbock, Sir John, *see* AVEBURY.

Lübeck: 1. A German principality, part of the grand-duchy of Oldenburg, situated on an arm of the Baltic, between Holstein and Mecklenburg-Schwerin. It contains the city of Lübeck, the town of Travemünde, forty-nine villages, and country districts. Pop. 41,272. 2. The state, lies in the lowlands of the Baltic, watered by the Trave and its tributaries. The soil is fertile, except the forest lands (14 per cent. of area), and produces rye, wheat, potatoes, hay, and much fruit. Trade centres in the city of L. The free state has [illegible] consisting [illegible] Senate of [illegible] (ii.) the [illegible] 120 elected members. L. has one vote in the Bundesrat, and sends a delegate to the Reichstag. Pop. 116,533. 3. A free city, one of the three remaining Hanse towns, formerly head of the Hanseatic League, 40 m. by rail from Hamburg. It is a grand ancient city, containing five Gothic churches, full of mediæval works of art: the Rathaus, the Schiffershaus, mediæval gates (Holstentor, Burgtor), the hospital of the Holy Ghost, and a valuable museum. L. was founded in 1140 and quickly gained commercial importance; was ceded to Saxony in 1158, obtaining its first charter from Duke Henry; conquered by Denmark, 1201; regained liberty and was made a free city by Frederick II.; sacked by the French, 18[illegible] [illegible]10; but once mo[illegible] [illegible]ned N. German [illegible] L. is a rival of Hamburg and Bremen as a German emporium, having a good harbour and quays, and ice-breakers to keep the river open. It trades [illegible] Sweden, [illegible] d other [illegible],620.

[illegible] : 1729), a Polish painter [illegible] r, born [illegible] Cracow. He studied at Am[illegible] under Gerard de Lairesse, [illegible] n went to Italy and Florence.

On returning to Germany he was appointed painter to the Elector of Brandenburg, and director of the Academy. He painted chiefly historical pictures and landscapes. His younger brother, *Christopher Lubiecki* (1659-1729), was born Stettin. He entered the school Adrian Backer at Amsterdam. and painted historical subjects and portraits.

Lubienietski, Stanislaus the Younger (1623-75), a Polish Socinian and astronomer, born at Cracow, whose fame chiefly rests on his *Theatrum Cometicum*, giving a full and detailed account of the one hundred and fifteen comets which appeared from the Deluge to his own time. He became a minister of the church at Lublin, but was exiled on account of his theological views, and went to Hamburg, where he spent the remainder of his life. Besides the above-mentioned work he wrote a *History of the Polish Reformation*, 1685.

Lübke, Wilhelm (1826-93), a German art historian, born at Dortmund. From 1861-66 he was professor of art and history at Zürich, and then held a professorship in the art schools of Stuttgart. He wrote numerous valuable works, including *History of Art*, and *History of Sculpture*.

Lublin, a gov. of Russian Poland, bounded N. by Siedlce, E. by the R. Bug, S. by Galicia, and W. by the R. Vistula. About one-third of its surface is oak, beech, and lime forest, less than one-twelfth pasture land, and the rest arable. In some parts the soil is fertile, black earth, but other parts are sandy. Rye, oats, wheat, barley, and potatoes are the chief crops; flax, peas, millet, and beetroot are also cultivated, and horses are bred. The chief industries are distilling and sugar-making; chief exports grain, wool, and wood. Area 6500 sq. m. Pop. 1,436,600. The city has a pop. of 62,000.

Lubni, or **Lubny**, a dist. and tn. of Poltava gov., S.W. Russia, on the Sula, 75 m. W.N.W. of Poltava. It has a botanical garden, and trade in jams. Pop. 10,000.

Lubricants (Lat. *lubricus*, slippery), substances insinuated between moving surfaces to reduce the friction between them and prevent their becoming hot. They may be solid, semi-solid, or liquid. The first variety, such as graphite or plumbago, seem to act as rollers or fill up roughness in the surfaces in contact, thus coating them with a soft, slippery material. They are used chiefly for wood and rough iron bearings, and all very hard materials. The semi-solid and liquid L. are much more important, and consist of various animal, vegetable, and mineral oils, often mixed and thickened or solidified with soaps. Semi-solid greases are used for railway waggon-axles, and the bearings [illegible] achinery, being [illegible] by a syringe [illegible]iston or else by a screw-plug. Liquid L. are used for all bearings which must run with as little friction as possible, and for all high-speed bearings. Sometimes the rubbing surfaces work in a bath of the L., *e.g.* in small engines for motor-cars or road waggons. For individual bearings, *e.g.* of railway vehicles, a pad of cotton, worsted, and horse-hair is saturated and pressed under the side of the journal, which is thus kept constantly wetted with oil. Often the L. runs in grooves and oil-ways cut in the bearings, and various other contrivances are used. A L. should have sufficient viscosity and oiliness, and must not be volatile, or decomposed by heat, or congeal with cold; it should not be oxidised by exposure to the air or acid so as to affect the metal of the bearings, nor must it be easily inflammable, but ought to be able to carry off the heat generated by the inevitable amount of friction. *See* Archbutt and Deeley, *Lubrication and Lubricants*; Hurst, *Lubricating Oils, Fats, and Greases*.

Lubricators, the mechanical contrivances by which lubricants are supplied to rubbing surfaces. For applying solid lubricants (tallow, lard, etc.), a simple box is used above the part to be lubricated, with a hole of a size adjusted to the viscosity of the material and the freedom with which it is to run. For the animal and vegetable oils, the usual form is a brass or glass vessel of varying capacity, fastened to the journal-box and having a hole at the bottom through which a vertical tube rises nearly or quite to the top of the oil-cup. A channel leads from the cup to the bearing to be oiled, and a leader of lamp-wick, often twisted round wire shaped  , is inserted partly into the tube, the rest falling into the oil, so that the wick acts as a siphon. Where continuous lubrication is required, an oil-pump is used, drawing the oil from a reservoir and forcing it through the journal, or small spoons are contrived to dip up the oil and pour it *on* the bearing. Howe invented a crank-pin L., with oil-cup screwed to the strap of the connecting-rod from beneath; and Dreyfus a needle oil-cup, usually of glass, with a hole at the bottom for the wire-needle to pass. When the machinery is in motion, the slight vibration of this needle is enough to let a small amount of oil pass. For lubricating

steam-engine cylinders, where the pressure of the steam is an opposing force, a small force-pump is often used, with or without a reservoir attached; or else a simple oil-reservoir connected above and below with the steam-pipe and steam-chest. On shafting, reservoir-boxes or 'self-oiling boxes' are sometimes used, where the oil is used over and over again. *See* Thurston, *Friction and Lost Work in Machinery and Mill Work.*

Lubrin, a tn. of Almeria prov., Spain, 9 m. from Vera, with marble quarries. Pop. 6600.

Luca della Robbia, *see* BOBBIA.

Lucan, a par. and small tn. of Dublin co., Ireland, on the Liffey, 7 m. W. of Dublin. Pop. (1911) 1100.

Lucan, George Charles Bingham, Earl of (1800-88), an English soldier, born in London. He entered the army in 1816, volunteering with the Russian forces in the Turkish campaign of 1828. He was in command at Balaclava, where the Light Brigade entered upon their famous charge, but was not generally held to be responsible for the order which resulted in the disaster. In 1858 he was made lieutenant-general, and in 1887 field-marshal. *See* Kinglake's *The Invasion of the Crimea*, 1863-87.

Lucan, Marcus Annæus (Lucanus) (*c.* 39-65 A.D.), a Roman epic poet, born at Cordova, Spain, nephew of the philosopher Seneca. Educated at Rome, he at first won the favour of Nero, who then grew jealous of him, and forbade him to recite in public. L. immediately joined Piso's conspiracy, but was betrayed and induced to turn informer by promises of pardon. Having revealed his accomplices, even including his own mother, he was condemned to death, but forestalled a traitor's death by suicide. His only extant work is the famous epic *Pharsalia*, dealing with the struggle between Cæsar and Pompey, after the crossing of the Rubicon. There are editions by Grotius (1614), Weber (1821-31), Haskins (1889). French, German, and English versions have appeared. *See* Weise, *Vita*, 1835; Obermeier, *Sprachgebrauch des Lucanus*, 1886; Palmer, *Apologia pro Lucano*, 1704; Meusel, *Dissertationes* (vol. ii.). 1767; Voltaire, *Essai sur la Poésie Epique.*

Lucania, an ancient div. of S. Italy, between the Tyrrhenian Sea and the Gulf of Tarentum, separated from Campania by the R. Silarus (N.) and from Bruttium by the R. Laus (S.). The original inhabitants were subdued by the Samnites (*c.* 300 B.C.), in turn subjected by the Romans (272). Sybaris, Heraclea, Thurii, and Pæstum were among the chief cities. In modern times the compartimento of Basilicata (prov. of Potenza and Salerno) represents L. *See* Smith, *Dict. of Greek and Roman Geog.*, ii.; Harper, *Dict. of Antiquities.*

Lucarius, Cyril (*c.* 1572-1637), a Greek Protestant prelate, native of Candia (Crete). He visited Italy and Germany and studied the Reformed doctrines. He became patriarch of Alexandria (1602), of Constantinople (1621), and aimed at reforming the Greek Church on Calvinistic lines. For this he was deposed and exiled to Rhodes. L. was recalled, but again expelled by his orthodox opponents and the Jesuits. His *Confessio* appeared in 1629. He was probably slain by the Sultan's janissaries. *See* Moréri, *Dict. Historique;* Aymon, *Lettres Anecdotiques de Cyrille-Lucar;* Herzog-Hauck, *Realencyklop*, 1902; Pichler, *Life*, 1862.

Lucarne, *see* DORMER WINDOW.

Lucas, Edward Verrall (*b.* 1868), an English author, and editor and biographer of Charles Lamb. Among his numerous works are: *A Book of Verses for Children*, 1897 and 1907; *The Open Road*, 1899; *Three Hundred Games and Pastimes* (with Mrs. Lucas), 1900; *Wisdom while You Wait* (with C. L. Graves), 1903; *Highways and Byways in Sussex*, 1904; *A Wanderer in Holland*, 1905; *Fireside and Sunshine*, 1906; *Listener's Lure*, 1906; *Character and Comedy*, 1907; *A Swan and her Friends*, 1907; *Over Bemerton's*, 1908; *Anne's Terrible Good Nature*, 1908; *Good Company*, 1909; *Mr. Ingleside*, 1910; *Old Lamps for New*, 1911; *A Wanderer in Florence*, 1912; *London Lavender*, 1912.

Lucas, John Seymour (*b.* 1849), an English historical and portrait painter, born in London. He received his training at St. Martin's School of Art, and entered the Royal Academy in 1871. In 1886 he became an associate, and in 1898 an R.A. His first picture, the 'Apothecary' from *Romeo and Juliet*, was exhibited in 1872. His best works include: 'The Burgomaster,' 1877; 'Armada in Sight,' 1880 (representing Drake finishing his game of bowls on Plymouth Hoe); 'Spy in Camp,' 1882; 'Whip for Van Tromp,' 1883; 'After Culloden,' 1884 (purchased by the Royal Academy); 'Eloped'; 'The Smoker'; and 'Peter the Great at Deptford.' He was commissioned by King Edward to paint the reception of the Moorish embassy in 1901.

Lucas van Leyden (1494-1533), a Dutch painter, born at Leyden, contemporary and rival of Albrecht Dürer. He studied under Cornelis Egelbrechtsen, and was a celebrated engraver early in life. In 1514 he

settled in Antwerp, and was elected a member of the Guild of St. Luke. His best-known paintings include 'The Last Judgment,' 'St. Peter, Martyr,' 'Christ Healing the Blind Man of Jericho,' a 'Card Party,' 'Virgin with Saints,' etc. He is eminent as an engraver for his skill in grouping figures. *See* Evrard, *Lucas de Leyde et Albert Dürer*, 1883.

Lucayos Islands, *see* BAHAMAS.

Lucca: 1. A prov. of Tuscany, Italy, bordering on the Gulf of Genoa. Area 558 sq. m.; pop. 332,227. 2. Cap. of above, on the Serchio, 10 m. N.E. of Pisa. It contains the famous 11th century cathedral of San Martino, with valuable paintings and antiquities, several churches of Carrara marble, the Palazzo Provinciale, and two academies. There are remains of a Roman amphitheatre, and to the S. of the tn. an aqueduct with 459 arches. 'Lucca l'industriosa' manufactures velvets, silks, and other textiles, glass, paper, inlaid work, and cigars. Pop. (com.) 76,037. There have been bishops since 347 A.D., and L. was made an archbishopric without suffragans (1726). The ancient Luca is mentioned by 218 B.C. In 177 the Romans founded a Latin colony there, and it was a municipium by 90 B.C. L. was annexed to the kingdom of Italy in 1860. The Bagni di Lucca (Bagno a Corsena) are in the Lima valley. *See* Mazzarosa, *Storia di Lucca*, 1833; Ridolfi, *L'Arte in Lucca . . .*, 1882; Del-Carlo, *Storia popolare di Lucca*, 1877; Dent's Mediæval Towns Series.

Lucena: 1. A tn. of Cordova prov., Spain, on the Cascajar. Woollen and linen fabrics, pottery, watches, and metallic wares are manufactured. Fine horses are bred, excellent red wines and brandy produced. Pop. 21,300. 2. A small tn. of Castellon de la Plana, Spain, 45 m. from Valencia. Pop. about 3800.

Lucera, or Luceria, a tn. of Foggia prov., S. Italy, 11 m. W.N.W. of Foggia. It has a 13th-century castle, a mediæval cathedral (once a Saracenic mosque), and a fine espicopal palace. The silk trade thrives. Pop. 17,500.

Lucernal Microscope, an optical instrument invented by Mr. George Adams, and so-called because the image of the object observed is thrown on a screen by the rays of light from a lamp (Lat. *lucerna*). The instrument consists of a hollow pyramidal wooden box; a tube carrying the usual system of lenses for [illegible] smaller end, the observer. [illegible] the lenses and [illegible] r is a plate of glass, roughened on one side, which serves as a screen to receive the rays of light which are reflected from the object. The latter is in a small frame, which is placed in a groove made for the purpose immediately beyond the tube containing the lenses. The box is mounted on a brass stand, and has its axis horizontal. An Argand lamp is used to give the required light; it is placed beyond the object, and the light after passing through a [illegible] sphere [illegible] mirror, the obj light in passing through the lenses, a highly magnified image of the object is formed on the screen.

Lucerne: 1. A canton of N. Central Switzerland, next in importance to Zürich and Bern. The surface in the N. is mountainous, but the soil is generally fertile. Its area is about 580 sq. m., and about four-fifths consists of pasture land. Grain, flax, hemp, and potatoes are produced, and the manufacture of cheese and condensed milk is important. Pop. 166,782. 2. The cap. of the canton, and one of the most popular tourist centres in Switzerland. It is situated picturesquely on the banks of the Reuss as it issues from the lake, and is 24 m. S.S.W. of Zürich. To the S. of the city towers Mt. Pilatus (7000 ft. above sea-level), while on the E. rises the famous Rigi. Amongst the numerous features of interest are the celebrated rock, the 'Lion of Lucerne,' carved by Thorwaldsen, as a memorial to the Swiss Guards who fell in Paris (1792); the Hofkirche; glacier garden; and the town hall dating from the 17th century. L. has only a small trade, and manufactures some silk and iron-ware, the accommodation of tourists being the chief business of the inhabitants. Pop. 39,152.

Lucerne, Lake of (*Vierwaldstätter See*, Lake of the Four Forest Cantons), one of the most lovely and celebrated of European lakes, situated in the N. central part of Switzerland. Its greatest length is 23 m., and its average breadth is about 2 m.; greatest depth, 700 ft. Its altitude is 1435 ft., and it is in the shape of an irregular cross.

Lu-chu Islands (or Liu-kiu), *see* LOO-CHU.

Lucian (Λουκιανός), (*c.* 120 – *c.* 190 A.D.), a famous Greek writer (of the 'silver age') and free-thinker of the Christian era, a native of Samosata. He travelled in Greece, Italy, and Gaul, settled at Antioch (160), and then moved to Athens. Many of his best works were written between 160-80. In the reign of Marcus Aurelius. He is chiefly noted as a satirist, and one of the world's greatest wits.

Among his numerous productions may be mentioned: Θεῶν Διάλογοι (twenty-six dialogues of the gods); Νεκρικοὶ Διάλογοι (of the dead); Ζεὺς Ἐλεγχόμενος; Ζεὺς Τραγῳδός; Βίων Πρᾶσις; Φιλοψευδὴς; Συμπόσιον; *Charon; Menippus; Demonax; Bis Accusatus; Piscator; Timon.* His Ἀληθῆς Ἱστορία (True History) inspired Rabelais's *Voyage of Pantagruel*, Swift's *Gulliver's Travels*, Cyrano de Bergerac's *Journey to the Moon;* and his works influenced Voltaire also. The best editions of L. are those of Dindorf (1858), Jacobitz (1874,1886-88), Sommerbrodt (1886-99), Hemsterhuis and Reitz (1743-46), Lehmann (1822-31). There are English translations by Franklin (1781), Irwin (six dialogues, 1894), Davidson (1902), Fowler (complete translation, 1905). Consult Collins, *Lucian* (Anc. Class. Ser.), 1873; Croiset, *Essai*, 1882; Passow, *Lucian und die Geschichte*, 1854; Jebb, *Greek Lit.; Essays and Addresses*, 1907; Jacob, *Characteristik Lucian's . . .*, 1832; Bolderman, *Studia Lucianea*, 1893; Bernays, *Lucian und die Kyniker*, 1879; Hime, *Lucian the Syrian Satirist*, 1900; Gildersleeve, *Essays and Studies.*

Lucian, Saint (*c.* 240-312 A.D.), a Christian martyr of Samosata, presbyter of Antioch. He was celebrated as a biblical scholar, and prepared a revised edition of the Scriptures. He was tortured to death by Maximin's orders in Diocletian's reign. *See* Jerome, *De Viris Illustribus;* Eusebius, *Hist. Eccles.*, ix.; Rufinus, *Hist. Eccles.*, ix.; Harnack, *Hist. of Dogma*, iv.; Hefele, *Hist. of the Councils*, i., 1871.

Lucifer: 1. (Lat., light bearer), the morning star, and the Latin name for the planet Venus, corresponding to the Greek Phosphorus. When the identity of the morning and evening star was recognised, Phosphorus and Hesperus were made brothers. 2. Hesiod makes L. the son of Eos, the Dawn, and Astræus; others call his father Cephalus. He had charge of the temple of Aphrodite, and was much in favour with the goddess. 3. In the A.V. of Isaiah. the word is used with reference to the glory of the king of Babylon, but the church fathers attached the name to Satan, thinking that the passage, 'How art thou fallen from heaven, O Lucifer, son of the morning,' contained a reference to the Prince of Darkness. Thus the word L. has come to be used to denote the fallen archangel.

Lucifer (*c.* 300-70 A.D.), Bishop of [illegible] Arianism; in consequence banished by Constantius in 355. His exile ended on Julian's edict (362). He refused to recognise as orthodox bishops who had signed the Rimini formula (359), and finally caused a schism in the church of Antioch. His followers were called Luciferians, but the sect soon disappeared. *See* ed. of his works (including *Defence of Athanasius*) by Tilius, 1568; Migne, *Patrol. Lat.*, xiii.; Hartel, *Corpus Eccl. Lat.*, 1886; Krüger, *Life*, 1886.

Lucigen Lamp, a very powerful artificial lamp, first used in 1885. The light is produced by burning creosote oil, held in a strong iron tank in the form of a circular drum. Compressed air, pumped into the drum at the rate of about 20 lbs. per sq. in., forces the oil up a tube, which extends from the bottom of the tank to the burner. The lower portion of this tube is encircled by another through which the oil is strained before it reaches the tank. At the outlet, heated air and oil amalgamate and escape together in the form of spray and vapour, producing a regular and brilliant flame.

Lucilius, Gaius (*c.* 148-103 B.C.), a Roman satirist, born at Suessa of the Aurunci. He is regarded as the founder of Roman satire, for, although his verse is rough, it is fluent, and was the model on which Horace and Juvenal based their polished and elegant poetry. He was a personal friend of Scipio, whom he accompanied on the expedition against Numantia, and of Laelius. L. wrote thirty satires, but only fragments remain. The best editions are those of Müller (1872) and Lachmann (1876). *See* Müller's *Leben und Werke des Lucilius*, 1876, and Mackail's *Latin Literature*, 1895.

Lucina (Lat *lux*, light), in Roman mythology, the goddess of light, corresponding to the Greek goddess, Ilithyia. When invoked, she attended women in labour and brought children to light. It was used as a surname of both Juno and Diana, who presided over the labours of women.

Lücke, Gottfried Christian Friedrich (1791-1855), a German Protestant theologian, born at Egeln, near Magdeburg. He became professor of theology at Bonn (1818-29) and at Göttingen (1827-55). He was one of the founders of the *Theologische Studien und Kritiken*, the chief organ of the 'mediation' school of evangelical [illegible] principal works [illegible] *die Schriften* [illegible] *innes* (4 vols [illegible] *der* [illegible] T[illegible] 817; [illegible] in [illegible] te, [illegible] de 1818.

See San[illegible]

Lucke [illegible] IV. of

Brandenburg, Prussia, 22 m. S.E. of Potsdam, on the R. Nuthe. The chief industries are wool spinning and manufs. of cloth, paper, machinery, and enamel ware. Pop. 23,475.

Lucknow, the chief city of the dist. of the same name, British India, the cap. of Oudh until the formation of the United Provinces (1901). The city stands on the r. b. of the Gumti, 43 m. N.E. of Cawnpore by rail. It is of great interest to Englishmen on account of the glorious defence of the Residency by a handful of British soldiers (May to Nov. 1857). The most notable buildings are the Imambara, the mausoleum of Asaf-ud-Daulá, the palaces of Chhattar Manzil, the Residency, and the Lawrence Memorial, and the great mosque (unfinished), Jama Masjid. The natives are engaged in gold and silver brocading, brass, copper, and clay work, and in the manufacture of shawls, paper, muslins, etc. The Cani[illegible] 1864, and La[illegible] soldiers' sons [illegible]ucational establishments. Pop. 265,000. The district of Lucknow has an area of 970 sq. m. Pop. 795,000. The division of Lucknow, comprising six districts, has an area of 12,051 sq. m. Pop. nearly 6,000,000. See *Lucknow District Gazetteer*, 1904; and M'Leod Innes, *Lucknow and Oude in the Mutiny*, 1895.

Luçon, a tn. in the dept. of Vendée, France, 21 m. N. of La Rochelle, and is connected with the sea by a canal 8 m. long. It is the seat of a bishopric, and has a cathedral dating from the 11th century. There are iron and copper foundries, and manufs. of liqueurs and clogs. Pop. 6800.

Lucretia, a celebrated Roman matron, the wife of Lucius Tarquinius Collatinus, and the daughter of Lucretius. According to the story, a number of Roman soldiers in camp quarrelled as to the respective virtue of their wives, and, in order to test the truth of their assertions, returned unexpectedly to Rome to see how their wives were occupied. L. alone was found loyal to her husband, busily occupied on household matters. Her beauty and innocence roused the passion of Sextus Tarquinius, who visited her at night and ravished her. In the morning she told her father and her husband of her shame and then stabbed herself. Her rape roused the Romans to shake off the hated rule of the Tarquins. *See* Shakespeare's *Rape of Lucrece* and Thomas Heywood's play of the same name.

Lucretius, or Titus Lucretius Carus (*c.* 99-55 B.C.), a Roman poet, concerning whose life authentic information is entirely lacking. His *De Rerum Natura* is a didactic poem on Epicurean philosophy in six books, and is addressed to C. Memmius Gemellus, who was prætor in 58 B.C. The chief aim of the poem is to free men from superstition, to accustom them to the idea of complete annihilation at death, and to rid them of the idea of divine interference. Gods there are, beings a little higher than mortals, but to them, too, death and corruption comes, bringing total eclipse. Regarding mortal concerns they live in supreme contempt. Throughout the whole universe the atom alone is eternal and incorruptible. These theories are expounded by L. with a passionate eloquence, fervour, and power that is quite unparalleled in Latin literature. *See* H. A. J. Munro's fine translation and commentary.

Lucullus, Lucius Licinius (*c* 110-57 B.C.), a celebrated Roman general of plebeian stock. He first distinguished himself in the Marsian War, and afterwards fought in the Social War on the side of Sulla, and became prætor in 77, and consul in 74. In the latter year he was entrusted with the care of the Mithridatic War, and remained in Asia for eight years. During the campaigns of 74, 73, and 72 he relieved Cotta, who had been besieged in Chalcedonia, destroyed the enemy's fleet off Lemnos, conquered Bithynia, and forced Mithridates to take refuge at the court of his father-in-law, Tigranes, King of Armenia. L. pursued him across the Euphrates, and

[illegible]

Acilius Glabrio to take his place (67). He did not yield the command to his rival, but was obliged to resign to Pompey, who was sent out in the following year. On his return to Rome, he retired from public life, and became notorious for his fondness of luxury. He wrote a history of the Marsian War in Greek. *See* Plutarch's *Life*, and Mommsen's *History of Rome*, 1894.

Lucy, Sir Henry W. (*b.* 1845). 'Toby, M.P.' of *Punch*, an English journalist. born at Crosby. After serving as a [illegible]

[illegible]

succeeded Shirley Brooks on *Punch* as the writer of 'The Essence of Parliament,' for which he has created the characters of 'Toby, M.P.' and the 'Member for Sark.' He has also contributed to the *World*, *Observer*, *Strand*, and various reviews, and has

written *Men and Manner in Parliament*, 1875; *Faces and Places*, 1895; *Mr. Gladstone, a Study from Life*, 1896; *Memories of Eight Parliaments*, 1908; and *Sixty Years in the Wilderness*, 1909 (second series, 1912). He was created knight in 1909.

Lucy, St. (281-304), a virgin and martyr, born and died at Syracuse. She was betrothed to a rich pagan who, irritated at her refusal to marry him, denounced her as a Christian to Paschasius, the governor, who beheaded her. She is the patron of the blind, and her day is Dec. 13.

Luddenden Foot, a tn. in the W. Riding of Yorkshire, on the Calder, 6 m. W. of Halifax. It manufs. woollen goods. Pop. (1911) 2904.

Luddite Rioters, or **Luddites**, were organised bands of workmen who gave voice to the popular distress caused by the introduction of machinery and the consequent scarcity in the demand for manual labour. The Ls. destroyed all kinds of machinery, in particular the Nottingham stocking and lace frames, throughout Nottinghamshire, Derbyshire, Leicestershire, and Yorkshire. They derived their name from Ned Ludd, an idiot boy of Leicestershire, who, unable to catch someone who had been tormenting him, destroyed some stocking frames in a fit of temper (1779). The riots lasted from 1811 to 1818. Consult Frank Peel, *Risings of the Luddites, Chartists, and Plug-drawers* (2nd ed.), 1888; Pellew, *Life of Lord Sidmouth*, 1847; and the *Annual Register*, 1811, 1812, and 1816.

Lüdenscheid, a tn. in Westphalia, Prussia, 19 m. S.E. of Barmen. It manufs. machinery and all kinds of metal ware, and has iron foundries. Pop. 32,297.

Lüderitzland (German S.W. Africa), *see* ANGRA PEQUEÑA.

Ludgvan, or **Ludjan**, a tn. in Cornwall, 3 m. N.E. of Penzance, has tin and copper mines. Pop. (1911) 2213.

Ludhiana, a tn., cap. of L. dist. Punjab, India, 73 m. S.E. of Amritsar. It manufs. famous Cashmere shawls, ornaments, and carriages, and has a thriving trade in grain. Pop. 48,000.

Ludington, a tn., cap. of Mason co., Michigan, U.S.A., on Lake Michigan, at the mouth of Marquette R. It has a fine harbour, exports lumber, and has saw mills and canning factories. Pop. (1910) 9132.

Ludinovsk, a tn. in the gov. Kaluga, Central Russia. It has iron and glass works, and manufs. locomotives. Pop. 12,000.

Ludlow, a tn. of Shropshire, England, 26 m. S. of Shrewsbury, at the junction of the Corve and the Teme. It was an old Roman settlement, and contains a castle of the 11th century. The grammar school was founded in 1282. The industries are tanning and brewing, and there are cabinet works and corn mills. Pop. (1911) 5926.

Ludlow, Edmund (1617-93), an English parliamentarian and regicide, born at Maiden Bradley, Wiltshire. On the outbreak of the Civil War, he joined Lord Essex's Life Guards, and fought at Worcester and Edgehill (1642). Elected to parliament in 1645, he was one of the promoters of Pride's Purge (1648), and signed the death warrant of King Charles I. (1649). In 1651 L. was sent to Ireland as lieutenant-general of horse, and on the death of Ireton in November, held the chief command. But when Cromwell was declared Protector, he refused to acknowledge his authority, and retired from public affairs until 1659, when he was returned to parliament as member for Hindon. At the Restoration (1660) he fled to Vevey, where he died. His *Memoirs* were published in 1698-99. *See* new ed. by Firth, 1894, and Guizot's *Monk's Contemporaries* (Eng. trans.), 1851.

Ludolf, Johann Job (1649-1711), a German mathematician, nephew of Job Ludolfus (1624-1704), the Orientalist, born at Erfurt, where he became professor of mathematics. He published *Cometa qui anno 1680 horribiliter apparuit cum integro suo cursu representatus*, 1681; *Tetragonometria tabularia*, 1691, and many other mathematical treatises.

Ludolfus, Job (the Latinised name of Hiob Leutholf) (1624-1704), a German Orientalist, born at Erfurt. He studied philology at Erfurt and Leyden where, and on his travels, he is said to have acquired a knowledge of

Sprache, 1857. *See* Juncker's *Commentarius de vita et scriptis Jobi Ludolfi*, 1710.

Ludwig (German emperors), *see* LOUIS.

Ludwig, Karl Friedrich Wilhelm (1816-95), a German physiologist, born at Witzenhausen, near Cassel. In 1849 he was appointed professor [illegible]iology at Zürich, post at Vienna eipzig (1865-95). *Physiologic des* expressed his new point of view that the phenomena of living animals may be explained by reference to the laws of inorganic nature. He was one of the founders of the Leipzig Physiological

Institute for original scientific research.

Ludwig, Otto (1813-65), a German dramatist and novelist, born at Eisfeld in Thuringia. He studied music under Mendelssohn at Leipzig, but later adopted a literary career, and made his first success with a drama, *Der Erbförster* (1850), which was followed by *Die Makkabäer* (1852). His extraordinary power of psycho- [illegible] in his pictures of [illegible] *Heiteretei und* [illegible] and *Zwischen Himmel und Erde*, *Shakespeare-*

391-92 and in 1900. *See* studies by A. Stern, 1891, and A. Sauer, 1893.

Ludwigsburg, a tn., cap. of L. dist., in the kingdom of Würtemberg, Germany, 8 m. N. of Stuttgart. It is the second royal residence and a military centre. The chief manufs. are chemicals, cloth, linen, and organs. Pop. 24,934.

Ludwig's Canal, in Bavaria, Germany, connects the Rhine and the Danube. It extends from Bamberg on the Main to Kelheim on the Altmühl. Its total length is 107 m.

Ludwigshafen, a tn. on the Rhine in the Bavarian palatinate, Germany, *opposite Mannheim. It has a free* harbour with considerable trade in [illegible]

Ludwigslust, a tn. in Mecklenburg-Schwerin, Germany, 21 m. S. of Schwerin. It manufactures chemicals and chocolate. Pop. 6926.

Luff, a nautical term used in a sailing ship for putting the tiller on the lee side to make the ship sail nearer the wind.

Luffa, *see* LOOFAH.

Lugano, a tn. in the canton of [illegible] Lake Lugano, [illegible] It is a much [illegible]ort. A famous cattle fair is held in October, dating from 1513. The chief manufactures are silk, leather, and iron goods. Pop. 12,999.

Lugano, Lake, in Switzerland and N. Italy, between Lakes Maggiore and Como, covers an area of 19 sq. m., and is noted for its beautiful scenery. Its altitude is 890 ft., and depth 945 ft.

Lugansk, Lugañ, or Luganskiy Zavōd, a tn. of S. Russia in the gov. of, and 143 m. E. of the tn. of Ekaterino- [illegible] a fine meteorological observatory. There is a flourishing trade in grain, cattle, linseed, wine, and corn. Pop. 35,000.

Luganskaya Stanitsa, a tn. of the prov. of Don Cossacks, S. Russia, on the Donets. Pop. 20,000.

Lugar, a tn. on Lugar Water, Ayrshire, Scotland, 2 m. N.E. of Cumnock. It has important iron works. Pop. (1911) 1300.

Lugdunum (Lat.), *see* LYONS.

Lugger, a small two- or three-masted vessel with a running bowsprit and lug-sails, *i.e.* sails hanging obliquely to the mast, and having [illegible] or three jibs.

[illegible] maritime prov. of N.W. [illegible]atered by the Miño and the Sil, and is a fertile region. Iron, granite, arsenic, and marble are found. Area 3814 sq. m. Pop. 452,197. 2. (*Lucense* or *Lucus Augusti* of the Romans) The cap. of the prov. of Lugo, situated on the l. b. of the Miño, 51 m. E. by N. of Santiago. It is enclosed by four massive Roman walls, and has a beautiful Gothic cathedral, dating from the 12th century. The chief industries are tanning, and linen and wool manufactures. To the Romans it was noted for its hot sulphur springs. Pop. 28,000. 3. A tn. of Central Italy, in the prov. of, and 14 m. W. of the city of, Ravenna. It has a large annual fair, held in September, and manufactures *wine and hemp. Pop. (com.) 27,500.*

Lugos, a tn., cap. of the prov. of Krassó-Szöreny, S. Hungary, 35 m. E. of Temesvar. It is the seat of two bishoprics, Greek and Latin. It trades chiefly in wine. Pop. 16,200.

Lug-worm, Fishing-worm, or Lob-worm (*Arenicola piscatorum*), a marine worm of the sub-order Tubicolæ or tubemakers, common on the British coasts, [illegible] id and mud, an [illegible] abouts by spirt [illegible] The worms are sought after by ground-feeding fish, and are therefore used in considerable quantities as bait by fishermen. Ls. grow up to 10 in. long, and are formed of numerous segments, thirteen of which have branchial tufts which appear to assist burrowing.

Luigi, Andrea di (commonly called Andrea d'Assisi and nicknamed 'L'Ingegno') (c. 1470 - c. 1556), an Italian painter, born at Assisi. He studied under Pierro Pérugin, and in his youth was regarded as the rival of Raphael. Later he painted excellent figure studies in conjunction with his master in the hall of Cambio, and afterwards in the Sistine Chapel at Rome. When L. became blind at an early age, Pope Sixtus IV. allowed him a pension. His 'Holy Family' is in the Louvre.

Luik (Belgium), *see* LIÈGE.

Luines, Charles d'Albert, Duc de, *see* LUYNES.

Luini, Bernardino (c.1470-c.1535), a distinguished Italian painter of the Lombard school, one of the finest masters of fresco painting. He was born at Luino, [illegible] was a followe[r] pupil, of da V[inci] painting Mado[nnas] coes are in the church of the Madonna at Saronno, and he is represented by an oil picture, 'Christ disputing with the Doctors,' in the National Gallery, London.

Luino, or **Luvino,** a tn. in the prov. of and 21 m. N.W. of the tn. of Como, Italy, on the E. shore of Lake Maggiore. It has considerable trade with Switzerland. Pop. 6000.

Luise, Auguste Wilhelmine Amalie (Queen of Prussia), *see* LOUISE.

Lujan, or **Luxan,** a tn. in the prov. of Buenos Ayres, Argentine Republic, on the Lujan R., 50 m. W. of Buenos Ayres. Has valuable petroleum springs in the neighbourhood. Pop. 12,500.

Lukas, or **Leokas,** *see* LEUCADIA.

Luke, The Gospel according to, has been ascribed by a continuous tradition to the writer whose name it bears since the 2nd century. The question has been much canvassed of late, and many advanced critics have denied that Luke had any share in the authorship either of the Gospel or of the Acts, which two are universally ascribed to one compiler. Others are willing to ascribe to him only the *we* sections in the latter work. But the majority of critics accept the traditional view, which now has the support of the great Professor Harnack, who now places the date of St. Luke's gospel before 60 A.D. Lahn places it about 75, while of more advanced critics who deny the Lucan authorship, Jülicher places it about 105 and Loisy from 90 to 100. The author does not claim to be an eye-witness narrating from his own recollections, but a compiler intending to give a more accurate compilation than those already in circulation. One of his sources was our St. Mark or a treatise very similar to this work. Another source which he had in common with the compiler of St. Matthew's Gospel, and which contained full accounts of the sayings of Our Lord, is generally known as Q (from the German *Quelle*, a source). *See* Harnack's *Neue Untersuchungen zur Apostelgeschichte und zur Abfassungszeit der Synoptischen Evangelien*, 1911.

Lukuga, or **Lukuja,** *see* TANGANYIKA, LAKE.

Lulea: 1. A seaport, and the cap. of the län of Norrbotten, Sweden, is at the mouth of Lulea R., on the N.W. coast of the Gulf of Bothnia. It exports ore from the iron mines of Gellivara, fish, skins, and forest products. The harbour, which was improved in 1901, is closed by ice from November to June. Pop. 8959. 2. A riv. in the N. of [illegible]vs through the län of [illegible]nto the Gulf of Bothnia, [illegible] sea at Lulea after a [illegible]m.

Lull, Raimon, or **Lully, Raymond** (c. 1235-1315), a Spanish mystic, known as the 'enlightened doctor.' He was born at Palma in Majorca, and led a wild, dissolute life till 1266, when he was converted. After several years spent in solitude and meditation, he began a great missionary enterprise, carrying out his projects by preaching throughout Italy and in France, Armenia, and Africa. In 1314 he sailed on a crusade against Mohammedanism to Bugia (modern *Bougie*) in Africa, where he was stoned, and died of his wounds. L.'s philosophy, as set forth in *Libri XII. Principiorum Philosophorum contra Averroistas*, was condemned by a papal bull (1376), and is now of interest only for its breaking away from the scholastic system. His *Blanquerna* (1283) in some ways anticipates More's *Utopia*. His poems *El Desconort* (1295) and *Lo Cant de Ramon* (1299) are of great beauty. *See* Helfferich's *Raymond Lull*, 1858; Canalejas's *Las Doctrinas de R. Lullo*, 1870; Barber's *Raymond Lully*, 1903; and Havelock Ellis's article in *Contemporary Review*, May 1906.

Lullutpur (India), *see* LALITPUR.

Lully, Giovanni Battista (1633-87), an Italian composer, born in Florence. He went to Paris, where he joined the band of Louis XIV., who made him director of the Académie Royale de Musique (1672). He introduced lively ballets into the French opera, and in conjunction with the poet Quinault composed twenty operas, the chief of which are: *Alceste; Thésée; Atys;* and *Acis et Galathée*. His *Miserere* was written for the funeral of Sequier. *See* the French *Life* by Radet (1891).

Lumbago, a medical term applied to a painful affection of the muscles in the small of the back. It usually seizes the patient suddenly on some extra, but not unusual, movement calling on the lumbar muscles. In a severe attack [illegible] gives rise [illegible] necessitating [illegible] is probably of rheumatic origin, and may be seated in the cartilages and ligaments rather than the muscles. It appears to follow exposure to damp or cold and leaves the patient open to future attacks, particularly with

pains may be allayed by hot fomentations with turpentine or laudanum; the common bread poultice is efficacious. The old-fashioned remedy—the application of a hot iron with brown paper interposed, is also good.

careful dieting, the avoidance of chill and damp.

Lumbar Puncture, a surgical operation, the object of which is to remove some of the cerebro-spinal fluid which surrounds the spinal cord. The examination of the fluid is of great value for ase of the c of pressure s of immediat The patient is placed on his side in such a posture as to facilitate the insertion of the needle between the processes of the spine; the puncture is made at the lower termination of the spinal cord, below the second lumbar vertebra at the highest point of the iliac crests slightly to one side of the middle line. The needle is pushed upwards and backwards through the ligaments of the spine, and the fluid will issue drop by drop from the canula, if pressure is normal and healthy. It is carefully collected in a sterilised tube for complete subsequent examination. The operation has been performed in cases of epidemic and tuberculous cerebro-spinal meningitis and uræmia, to relieve intra-cranial pressure. The fluid should be perfectly clear, and microscopic examination should show the presence of few cells. If there is excess of cells the fluid will be more or less turbid. It must be tested for the car In of the cord, mono-nucleated leucocytes will be found in excess, multi-nucleated cells in other forms of meningitis. The operation of L. P. has been proved of the gre in the study of the variou meningitis, bringing them realm of scientific treat control. The same operation affords a means of inducing spinal anæsthesia by the introduction of anæsthetics.

Lumber and Lumbering (*cf.* Swedish *lomra*, to roar, a frequentative of *ljumma*, to make a noise). Formerly the word lumber was pawnbroker's shop, bein 'Lombard,' which was to pawnbroker, some one umulated discarded furniture, he word, with its two-fold of rubbish and timber, is y associated with both these for shipbuild nufacture important . It includes and cutting into logs, and the sawmilling of rough timber into beams, and the planing of these. *See* TIMBER.

Lumbricus, *see* EARTHWORMS.

Luminescence, the property of emitting light without the simultaneous manifestation of heat. The most familiar instances are those of phosphorescence in decaying fish, the glow-worm, and fire flies, and the 'phosphorescence' of the sea. Chemical action accounts for it in the case of phosphorus itself, oxidation taking place in air at ordinary temperatures. In the case of radium and electric discharges, disintegration of substances largely accounts for it (*see* X-RAYS), this occurring probably in the *aurora*. In the case of quinine sulphate solutions, we speak of fluorescence due to emission of previously absorbed light; other substances exhibiting L. are the sulphides of calcium, barium, and strontium, used in the manufacture of luminous paints. These possess the power of storing up light rays of higher refrangibility. Some crystals exhibit L. on being warmed slightly, *e.g.* diamond, or as a result of friction due to rubbing or crushing, *e.g.* sugar. *See* Dr. Phipson *On Phosphorescence* (1862) for organic L.

Luminosity, the state of emitting light. Intrinsic L. or brightness is the comparative light emitting power of a shining body per unit area. Bodies may be self-luminous or luminous by reflected light; in the former case *incandescence* is usually due to a state of heat. The whole question is ect of light rays on the he eye, and a rough may be made into glow- ng or amil red, bright red, yellow, and white, but the eye fails completely to make any approximation to scientific comparison, judging, *e.g.*, a times as bright by photometry ight. The eye, ifference of L., can recognise equal L. It can be shown (*see* LIGHT) that the intensity of illumination at any point of a surface held normally to the light varies inversely as the square of the distance of the point from the light. By so- ces of two luminous give equal illumina- e, we arrive at their

comparative Ls. There are, however, many attendant difficulties, *e.g.* colour and standard (but *see* PHOTOMETRY). As a rule Ls. of gases or vapours are low, even with intense heat; high L. being due to incandescent solids. Bright flames owe their intensity to small particles of solid in an incandescent state, *e.g.* coal gas owes its luminous powers to carbon particles liberated chemically; if air be mixed as in the bunsen flame, though the heat is more intense, the brightness is altogether lost; the solid incandescent mantle, however, becomes intensely luminous in the flame. Another instance is the ordinary lime light. In this case the burning gases, though not supplying the light, are themselves somewhat luminous though solids cannot be present; possibly the dense gas due to pressure acts somewhat like the solids.

Luminous Paint. Substances with the power of luminescence have been incorporated in paint. Such paints do not give out sufficient light to enable their [illegible] der the object coated with them visible in the dark by the phosphorescent glow. The substances used are the sulphides of calcium, barium, and strontium, prepared by reduction of the sulphate with carbon. The earliest L. P. was 'Bologna phosphorus,' the sulphide of barium; Balmain's L. P. is another mixed sulphide preparation. The essential point about these substances is that they lose the property unless exposed periodically to sunlight or other strong actinic rays. The rays of light of higher refrangibility are stored and slowly emitted: an example of the dissipation of energy.

Lumphinans, a tn. in Fifeshire, Scotland, 1 m. W. of Lochgelly; has collieries and iron works. Pop. (1911) 2006.

Lunacy. Lunacy in this article is used in its legal sense as representing all those aberrations from mental soundness which involve as a consequence certain disabilities in civil relations. (For the pathological side of the subject, *see under* INSANITY and MEDICAL JURISPRUDENCE, especially as to the medical tests of L.) The term 'lunatic' is derived from *luna*, the moon (from the supposed influence of the moon in causing mental disorder). It is notoriously difficult to state the legal conception of L. from the fact that different text writers adopt different classifications, sometimes opposing it to *idiocy*, or other forms of insanity, and sometimes including under the connotation practically all cases of lost memory. In general, the English law overrides pathological difficulties by defining lunatic as meaning and including 'every person of unsound mind, and every person being an idiot' (Lunatic Asylums Act, 1853, and Lunacy Act, 1890). This leaves the term idiot undefined, but for the most part idiocy has been used to denote *dementia naturalis*, or a *nativitate*, *i.e.* congenital infirmity of mind, though some, *e.g.* Luff (*Forensic Medicine and Toxicology*), state that all grades of mental deficiency are comprised in the term idiocy, from persons whose mental condition resembles a mild form of imbecility to those whose intelligence is so low that they lead but an automatic existence. No less confusing is the legal use of the term *unsound mind* which in many Acts is used indiscriminately to mean *non compos mentis* (*i.e.* not master of one's senses), congenital L. in all its variations of signification, and permanent 'adventitious' insanity. Idiocy, at all events, is a term of less shifting import than all the others; it is derived from the Greek ἴδιος, a private person, or one who has no public office, and ἰδιώτης, an ignorant or illiterate person, and necessarily implied and still implies incapacity; whereas the term 'lunacy' is by no means a synonym for incapacity, and does not consistently imply a permanent state. Another type of mental disability is that called *imbecility* which is legally defined as a weakness of mind between the limits of absolute idiocy on the one hand, and of perfect capacity on the other. The phrase *moral insanity* is noticed in CRIMINOLOGY. For all practical purposes of civil relationship it is unnecessary to attempt a further differentiation or a more scientific classification of these mutable terms, because the law avoids definitions for the most part, and merely applies various tests to determine responsibility and capacity, and then, according to the result of its inquiry, attaches or removes disabilities, as, for example, disability to make a will or enter into a binding contract.

Formerly, the legal tests of idiocy or insanity generally, were of the crudest kind. One test was the capacity of the alleged idiot to count twenty pence, tell his age, or who were his father and mother. This old test of idiocy is grotesque enough when judged by the light of modern mental science; for it is a commonplace among alienists that there are to be found among idiots (generally congenital) special instances of extraordinary memory, and great powers of calculation (*idiots savants*). Then later the law acted on Hale's view that the question whether a

person was master of his senses was one of fact for a jury. At the present day commissions in L. do not venture to declare a person a lunatic unless he is unable to ap
to pass a ratio
results of the
the subject of
(Renton's *Lunacy*).

Medical treatises commonly assume that law has no satisfactory or conclusive test of L., nor indeed any consistently adopted one. But at least the law is practical in that it judges a man's mental condition from his apparent powers of comprehension. It is gravely to be doubted whether medicine has any more conclusive test than law. This is obvious from the high degree of tact and ingenuity which must perforce be exercised in cases of suspected insanity where the subject is believed to be concealing his mental deficiency. The method adopted is to put various questions in the spirit but not in the manner of the cross-examining lawyer, in order that from the answers of the subject inferences may be drawn as to the existence or otherwise of delusions. In one direction law goes further than medicine, because it consistently infers irresponsibility on the ground of insanity from mere ignorance of the nature and quality of a particular act, while medicine recognises that in certain cases a person may from disordered feelings, over which his rational faculty has no control, be unable to refrain from a particular act, although he understands perfectly its moral nature. The reply of the lawyer is that the good of the community must override emotional idiosyncrasies, and that a narrow standard is the only safe one to adopt. (For the test of criminal responsibility and the relation of lunacy to crime generally in English law, *see under* CRIMINAL LAW, and also CRIMINOLOGY.)

Simple contracts (*q.v.*) of lunatics are voidable. They are binding upon the lunatic or his representatives unless he or someone on his behalf can prove that the other party to the contract knew he was so insane as not to know what he was about. It seems that in order to deprive the other party of his rights on the ground of notice of the lunatic's state of mind, something more than general reputation or a casual intimation that the other is out of his mind is requisite. A lunatic may make a valid contract during a lucid interval, but it is on the other contracting party to prove the existence of the lucid interval. But the property of a lunatic (whether he be *found* so or not) is bound to recoup the reasonable cost of necessities supplied to the lunatic, and it is immaterial whether the person supplying the necessaries knew or did not know of the L. A lunatic or
te is liable for necessaries
to his wife by any one who
rant of his state of mind, and
the lunatic when of sound mind, had held out his wife as his agent. The question of the voidability of specialty contracts made by a lunatic is not so clear; but a person *found* by *inquisition* to be a lunatic cannot execute a valid deed disposing of his property, nor even during a lucid interval, unless and until the inquisition is annulled. Apparently a lunatic or his agent can only get a contract under seal set aside by establishing, as in the case of simple contracts, incapacity and notice of that fact to the other party.

Apart from statute, unsoundness of mind is no bar to a valid marriage if the alleged lunatic knew at the time of marriage
and fully a
duties and
contract of marriage creates: and insanity supervening after marriage is not a ground for divorce or judicial separation unless it also amounts to cruelty, when it might be a ground for separation. A lunatic husband or wife (insane when married) may, on recovering reason, petition for nullity. The sane spouse may also petition for nullity at any time, but the burden of proof of the insanity of the other spouse at the date of marriage is upon the petitioner. But the court does not usually attempt to gauge the extent of the mental derangement, but confines itself to the broad issue of the health or disease of the mind at the time of the ceremony (Hall, *On Divorce*). It seems that under a statute of George II. marriages of lunatics so found by inquisition are void without the necessity of nullity proceedings, though the point is not free from doubt. L. is no answer to a petition for restitution of conjugal rights. It is a good answer to a petition for divorce on the ground of adultery, or other matrimonial offence, if the respondent were of such unsound mind as not to be aware of the nature and consequences of his offence. The will of a person alleged to be of unsound mind at the time of making it, cannot be attacked if the testator at the time of executing the will had a sufficiently good memory to recall the nature and amount of his property and the persons who might have moral claims upon it, and further, if his judgment and will-power were not so subject to the influence of morbid ideas or external control as to be inadequate to balancing the relative

strength of those claims. *Moral insanity* (*see* CRIMINOLOGY) is not sufficient to invalidate a will.

The general principle in the law of torts (civil wrongs apart from breach of contract) is that a lunatic is liable to the same extent as any other person; for intention and state of mind are hardly germane to questions of *tortious liability*. But as Sir Frederick Pollock points out, a lunatic would hardly be held liable in damages for 'incoherent words of vituperation.' The control of the person and property of lunatics belongs of right to the crown (*q.v.*), a right which was confirmed by the statute *De Prærogativa Regis* of 1324. Formerly the king took the profits of the estates of idiots for his own use, and acted as a trustee for the estates of lunatics (*i.e. non compotes*). But for, at least, three centuries this royal jurisdiction has been delegated to various officials or bodies like the Lord Chancellor (*q.v.*), the old Court of Wards, and the Court of Chancery (*q.v.*), and is now vested in the Masters in Lunacy. Masters in Lunacy are barristers of ten years' standing, who are empowered to hold inquisitions as to the state of mind of a person alleged by near relatives, executors, or certain other persons to be lunatic. A petition for an inquisition must be backed up by medical affidavits, stating the facts relied upon to prove the mental incapacity. The Masters have power also to make all necessary or consequential orders for dealing with the persons and estates of lunatics so found by inquisition. Under the Lunacy Act, 1890, they also have wide summary powers of management and administration over the property of lunatics not so found, such summary powers being exercisable exclusively for the benefit of the lunatic. There are also ten Commissioners in Lunacy appointed by the Lord Chancellor whose duties comprise the visitation of lunatics in asylums, hospitals, and licensed houses for lunatics, and lunatics in private families and [illegible]. Visitations [illegible] and without warning. The medical officer of a poor law union or district in which a pauper lunatic is resident has the power of visitation in such cases. The object of this comprehensive scheme of asylum visitation is the prevention of abuse, and it is said that the system is so well worked that abuses do not occur to any great extent.

Lunatics may be lawfully detained in the following cases: (*a*) Under an urgency order signed by the husband or wife, or by a relative of the lunatic, accompanied by a medical certificate, a lunatic may be detained in an asylum, both in the interests of his own and the public safety. (*b*) Under a summary reception order made by a justice of the peace in the case of (1) lunatics not under proper care or control, or cruelly treated or neglected; (2) pauper lunatics; (3) lunatics wandering at large; (4) lunatics in workhouses. (*c*) Under an order signed by the committee (*i.e.* custodian), or by a Master in Lunacy, authorising detention of a lunatic so found by inquisition. (*d*) Under the warrant of the Home Secretary criminal lunatics may be detained during the royal pleasure in criminal lunatic asylums. (*e*) Under a reception order made by two Commissioners in Lunacy in the case of a pauper lunatic or alleged lunatic within an institution for lunatics or a workhouse.

Statistics.—According to the annual reports of the Lunacy Commissioners there is an alarming progressive increase in insanity, the proportion per 10,000 population having risen from 18·67 in 1859 to 37·12 in 1912. The figures for 1912 were:

	England and Wales	Scotland	Ireland
Males .	63,128	9,401	12,868
Females .	72,533	9,633	11,787
	135,661	19,034	24,655

See Renton's *Lunacy*, 1897; Archbold's *Lunacy* (4th ed.); Reports of Lunacy Commissioners.

Lunardi, Vincenzo (1759-1806), an Italian aeronaut, *see* AERONAUTICS.

Lunation, a period between two new moons.

Lunawara, a small state of Rewakanta, Gujerat, India. The cap. L., is a fortified tn., 65 m. E. of Ahmadabad. Pop. 11,000.

Lund, a tn. in the län and 12 m. N.E. of Malmö, Sweden, was the cap. of Denmark in the 12th century, and reunited with Sweden, 1658. It contains a fine 11th century cathedral, observatory, zoological museum, botanical gardens, and a university, founded in 1668. The industries are woollen manufs. and tanning. Pop. 20,139.

Lunda, a large ter. in Central Africa, situated S. of the Belgian Congo, and politically belonging partly to Belgian Congo and partly to Portugal. It is watered by the Kasai, Lulua, and Lubilash, and inhabited by the Kalunda, a tribe of Bantus. The Bantu supreme chief is called Muata Yamvo, who shares his power with the Lukokesha, both these rulers being elected by the nobility. The site of the capital, called Musumba, changes at the death of the

Muata Yamvo. Pop. (estimated) 2,000,000.

Lundenburg, a tn. in Moravia, Austria, on the R. Thaya, 12 m. S. of Nikolsburg, contains a famous old castle. It has coal mines. Pop. 8521.

Lundy Island, in the Bristol Channel, Devonshire, England, 12 m. N.W. of Hartland Point; has an area of 1051 acres. It contains a lighthouse built in 1820, and remains of an ancient castle and round towers. It was a stronghold of smugglers. Pop. 150.

Lüneburg, a tn. of Hanover, Germany, 31 m. [illegible] Ilmenau. T[illegible] the 14th-ce[illegible] and that of [illegible] It joined the Hanseatic League. The chief manufs. are textiles, carpets, chemicals, and it has iron works and gypsum quarries. Pop. 27,797.

Lunel, a tn. in the dept. of Hérault, France, on the Vidourle, 14 m. E.N.E. of Montpellier. It manufs. absinthe, and is the centre of a wine-producing district. Pop. 7500.

Lunen, a tn. in [illegible] on the Lippe, 24 [illegible] It has iron works [illegible] cultural implements. Pop. 10,557.

Lunenburg, a seaport tn., cap. of Lunenburg co., Nova Scotia, Canada, 45 m. S.W. of Halifax. The fishing fleets start from here for Labrador. Pop. 4000.

Lunette: 1. In fortification, a redan with lateral wings and gorge generally open, built for the protection of roads and bridges. 2. (Fr. *lune*, moon), in architecture, a crescent-shaped, or semi-circular aperture, made so as to admit the light, or for the passage of bells. The word is also applied to a semi-circular panel, filled in with decorative carving.

Lunéville, a tn. in the dept. of Meurthe-et-Moselle, France, 15 [illegible] E.S.E. of Nancy. It is a milit[illegible] depôt. The peace of L. was sig[illegible] here in 1801 between Germany [illegible] Napoleon I. The industries [illegible] woollen and cotton spinning and t[illegible] ning, and manufs. of gloves, porcelain, and linen. Pop. 24,300.

Lung-chau, a tn. in the prov. of Kwangsi, China, near the borders of Tongking. It is a treaty tn. on one of the main trade routes, and is a military depôt for China. Pop. (estimated) 13,000.

Lungs. The L. are the greyish, spongy, irregularly pyramidal or conical elastic organs of respiration, [illegible] the greater portion of the [illegible] the posterior central portion [illegible] termed the *mediastinum*, and containing the heart, great vessels, roots of L., etc. Each organ has an apex extending into the root of the neck just above the first rib, and a concave base resting on the diaphragm. The outer surface is smooth and convex, and the inner is concave and in part adapted to the pericardium. The posterior border fitting into the deep concavity on either side of the spinal column is broad and rounded, while the anterior edge is thin and overlaps the front of the pericardium. Each L. is enclosed in its serous membrane, the *pleura*, a double bag, the inner closely covering the L., and the outer forming a lining to the cavity of the chest. Between the two surfaces of the pleura there is a small amount of lubricatory fluid as in the case of the pericardium. The bronchus (*q.v.*) and the great vessels join the L. at its *root*, which is situated upon the inner surface, somewhat above the middle of the L. and towards its posterior border. Within the L. the arterial trunks run behind the bronchial branches, and the venous trunks are situated in front.

Dimensions, etc.—The right L. is [illegible] tle thicker and heavier than the [illegible] but is almost an inch shorter owing to the curvature of the diaphragm in accommodation of the liver. The organs vary in weight and size according to the amount of blood they may happen to contain. In general, the right L. weighs about 22 oz. in the adult male, and the left weighs about 20 oz. The totals are less in the case of the female, both absolutely and also relatively, for the L. weight is about $\frac{1}{27}$ of the body-weight in the male and about $\frac{1}{25}$ in the female.

Properties and structure.—The mass of the organ is of a light, porous, spongy texture, and when healthy is buoyant in water. When fully distended the specific gravity of the [illegible] is only 1·06, but rises to 1·056 on [illegible] is opened. The right L. is divided into three lobes, one of which is less distinct; the left is divided into two lobes. The surface of each L. is marked out into polygonal spaces, which are the bases of the lobules, and the substance of the organs is made up of lobules united by connective tissue (*interlobular septa*), which is continuous with the subpleural and peribronchial connective tissues. Each lobule is a complete system in itself, consisting of: (*a*) A small bronchial branch; (*b*) artery, capillaries, and vein; (*c* nerves; (*d*) lymphatics.

Air circulation.—The L. may be regarded as a many-chambered elastic bag placed in the air-tight thorax and having a communication with the exterior only by means of the trachea. Atmospheric pressure acting down the trachea keeps the L. so far stretched that the two pleural layers are always in apposition, and together with the heart and great blood-vessels they completely fill the thorax. The air passes on into and through the bronchi which somewhat resemble the trachea in structure; the current then continues through the various subdivisions of bronchia, bronchioles, and bronchial tubes which, diverging in all direc-

pouches termed *air-cells* or *alveoli*, the walls of which consist of a thin membrane of areolar and elastic tissue lined by thin transparent flat cells. The cells are about $\frac{1}{200}$ in. in diameter and are said to number upwards of 700,000,000 and to present a very great surface to the air. It is from the air in these cells that the blood obtains a fresh supply of oxygen and gives up [illegible] between ac[illegible] is a layer of the vessels twisting first to one side and then to the other of the septa between the alveoli.

Blood-vessels.—The branches of the pulmonary artery accompany the bronchial tubes, but in their remote ramifications they subdivide more frequently. They are independent of one another, though the corresponding veins frequently anastomose. The terminal arterial branches are about $\frac{1}{1000}$ in. in diameter, and from them arise the capillaries $\frac{1}{1600}$ in. in diameter so closely meshed that their inter-spaces are [illegible] the vessels. Th[illegible] monary veins a[illegible] network of the of the smaller bronchial tubes; the fusion of these and other venous vessels gives rise to the pulmonary veins which leave the roots of the L. and return the blood to the left auricle of the heart. The pulmonary vessels differ from the systematic in regard to their contents; the arteries in the former circulation carry dark blood while the veins carry red blood. The pulmonary veins have no valves, nor are they more capacious than their corresponding arteries. [illegible] mentioned

which nourish the bronchia, [illegible]

phatic glands, and connective tissue of the L., while bronchial veins return much of this blood to the systematic circulation, though some small amount of it is returned by the pulmonary veins.

Lymphatics.—Part of the numerous lymphatics of the L. take origin from lymphatic capillaries in the interalveolar septa, others near the surface of the L. come into connection with the subpleural lymphatic plexus. Both sets emerge at the roots of the L. where they enter the bronchial glands, passing thence from the left L. into the thoracic duct, and from the right L. into the right lymphatic trunk. Foreign particles [illegible] by the mucus in the bronchial[illegible]es often find their way through [illegible]thelium into the lymphatics, [illegible]ay finally reach the bronchial [illegible]. Particles of carbon are frequently found embedded in the lymphatic glands of those engaged in coal mining.

Nerves.—The nerves of the L. come from the anterior and posterior plexuses, which are formed chiefly by branches from the pneumogastric or vagus nerve, joined by others from the sympathetic system. They enter the L. and follow the distribution of the vessels and bronchi, small ganglia being situated in the walls of the latter. In the lower vertebrates (frog, newt) the nerves are chiefly distributed to a layer of plain muscular tissue, which is everywhere found taking part in the composition of the relatively simple pulmonary wall (Stirling), but in mammals their exact mode of termination is not clear. Impulses pass from the L. along the pneumogastric and along other nerves to a respiratory centre in the medulla, and from this centre efferent impulses proceed along various nerves, and so bring about respiratory movements.

Condition in the fœtus and change after birth.—In the fœtus the L. contain no air and consequently sink in water. After birth they undergo rapid and remarkable changes consequent on the commencement of respiration. The chief changes are given below. In a still-born child or in a full period fœtus the L. lie packed at the back of the thorax, subsequent respiration in the latter case causes the L. to fill the pleural portions of the thoracic cavity. The introduction of air and of an increased quantity of blood converts their tissue from a compact, heavy, yellow-pink substance into a loose, light, rosy-pink spongy material, resembling blood [illegible]oth. These changes occur first at [illegible]he anterior borders, and in the right [illegible]L. rather earlier than in the left. The

absolute weight which has been increasing gradually during the intra-uterine period undergoes a marked increase at bi[illegible] than one-thir[illegible] The relative [illegible] from about [illegible] weight to [illegible]; a proportion which suffers no material change during later life. The specific gravity is, as might be expected, materially reduced on the commencement of breathing.

Diseases, etc.—The L. and its investing diseases are particularly subject to disease. Pneumonia, which may attack one L. or both, frequently arises as a secondary complication in association with other diseases. It is due to inflammation of the L. tissue, and is generally accompanied by pleurisy or inflammation of the pleura. Wounds of the thorax caused by piercing implements, or even by the fractured ends of broken ribs, may allow air to enter between the pleurae. This is termed *pneumothorax*. The natural elasticity of the L., coupled with the atmospheric pressure acting on its exterior, leads to its contraction and to a consequent difficulty of inspiration. *Empyema* is the presence of an abscess in the pleural space between the L. and the chest, and is usually caused by the micro-organisms of pneumonia, typhoid fever, etc. An opening of the chest space and draining away of the contained fluid is the usual surgical treatment. Other disorders may require the removal of portions of the L. tissue itself.

Lunkah, or **Lanka**, a Sanskrit word [illegible] often applied to [illegible] urrounding the [illegible] Ceylon is called by the Hindus *Lanka-dwipa*, 'shining island.'

Lupercalia, a yearly festival of purification, held at Rome on Feb. 15, in honour of Lycæan Pan, whose worship was introduced by Evander, the Arcadian, or, as some think, of the wolf that gave suck to Romulus and Remus. It was held at the foot of the Palatine Hill, near the cave of Lupercus in which was preserved a bronze statue of a wolf. The officiating priests, called *Luperci*, sacrificed goats and dogs, with the blood of which they touched the foreheads of two youths. The blood was then wiped away with wool dipped in milk, and the youths were obliged to smile during the whole process. The skins of the sacrificial victims were then cut into long lashes, called *februa* (*cf.* Lat. *februare*, to purify); with these the priests ran along the walls of the city, slashing any one they met as an act of purification. Women were particularly eager to receive a cut, which was believed to remove barrenness. The rite continued until 494 A.D., when Gelasius changed it into a festival of purification of the Virgin Mary.

Luray, a tn. in Page co., Virginia, U.S.A., 76 m. S.W. of Washington. It has considerable trade, flour and lumber mills. Pop. (1910) 1250.

Luray Cavern, in Page co., Virginia, U.S.A., near Luray village, has one of the finest displays of stalactites and stalagmites in the world. It is divided into several chambers covered with formations of various colours, and fantastic shapes. It is lighted by electricity and much frequented by tourists.

Lurcher, a cross between a collie and a greyhound, used by poachers on account of its speed and sagacity. It has very keen scent, a watchful ear, and a stealthy tread; when roused it can be very dangerous, and can run as fast as a hare.

Lure, a tn. in the dept. of Haute-Saône, France, on the Oignon, 18 m. N.W. of Belfort. It has a famous abbey. Pop. 6500.

Lurgan, a tn. in co. Armagh, Ireland, 20 m. S.W. of Belfast. It is the centre of an agricultural district and carries on important manufs. of lawn, cambric, and damask. Pop. (1911) 12,135.

Luria (or **Loria**), **Isaac Ben Solomon** (1534-72), a Jewish mystic, one of the 'Five Sages' of the 16th century, born in Jerusalem. He began life as a spice merchant in Alexandria, but was so much influenced by the *Zohar* of Moses de Leon, that he became a visionary, and propagated his mystic doctrines among a large company of [illegible] ecorded tal, had dogma.

Luristan, a mountainous prov. on the western frontier of Persia, crossed by part of the plateau of Iran, inhabited by numerous tribes. Area 15,060 sq. m. Pop. 350,000.

Lusatia (Ger. *Lausitz*), a dist. in Germany, comprising Upper and Lower L., and belonging partly to Prussia and partly to Saxony. During the 14th century the country was possessed by Emperor Charles IV., King of Bohemia, and in 1469 it fell into the hands of Matthias Corvinus, King of Hungary. In 1490 it was regained by Bohemia, who ceded it to Saxony by the Treaty of Prague (1635). In 1815 the whole district was transferred to Prussia with the exception of Bautzen, which was retained by Saxony.

Lushais, a warlike tribe of mountaineers, who inhabit the Lushai Hills of Assam. This district was

formerly occupied by Kukis. The L. number about 82,000.

Lu-Shun-Kau, *see* PORT ARTHUR.

Lusiadas, a patriotic poem written by Luis de Camoens (*q.v.*).

Lusignan, a tn. in the dept. of Vienne, on the Vonne, France, 15 m. S.W of Poitiers. It has a fine 11th century church. The L. family were rulers of Jerusalem and Cyprus. Pop. 2200.

Lusitania, one of the three provinces into which Augustus divided Hispania, ancient Spain, the two others being Tarraconensis and Bætica. L. was called after the tribe Lusitani, and in extent corresponded very closely to modern Portugal. The Roman seat of government was Augusta Emerita (Merida). *See* Mommsen's *Provinces of the Roman Empire* (Eng. trans.), 1886.

Lussin, or **Lossini**, an island of the Austrian Crownland of Istria, in the Gulf of Quarnero, and separated by the Channel of Ossero from Cherso. The chief towns are Lussin Grande on the E., containing a Venetian palace, and Lussin Piccolo, the chief port of the Quarnero Island, and a popular pleasure resort. Pop. 12,947.

Lustenau, a tn. in Vorarlberg, Upper Austria, on the Rhine, 7 m. S.W. of Bregenz. It is famous for its embroideries. Pop. 8381.

Lustre, the characteristic appearance of many substances in ordinary light, due to the intricate interworking of transparency, translucency, reflection, refraction, and diffraction, chiefly at the surface of the substances. For example, the L. of pearl is largely due to the diffraction of light. Practically, all metals have what is termed L., probably due chiefly to combined with refraction partially absorbed in surface crystalline layers and reflected back again. In the case of crystals and precious stones refraction plays a larger part. The whole phenomenon is due to interference with incident light rays by the surface and surface layers of the substance before finally reflecting them.

Lustrum (Lat. *luere*, to purify), a sacrifice for purification and expiation by the censors at the end of the quinquennial census of the Roman people. The sacrificial victims (boar, sheep, and bull) were carried round the people assembled in the Campus Martius, hence it was also called the Ambilustrium. Before any expedition was undertaken, and after any disaster, the *lustratio* of the fleet or army was performed. *See* LUPERCALIA.

Lute (Arabic *el ûd*), a stringed instrument of music, widely used in the 16th and 17th centuries. The primitive type of L. is the two-stringed *tanbur* of Persia. It came into Europe through the Arabian *el ûd*, which consists of a convex and pear-shaped sound-body stringed with silk and played upon by a shell or quill plectrum. The L. family includes the Neapolitan mandoline but excludes the guitar and zither, which are distinguished from it in shape and by possessing sides and ribs. The ancient L. seems to have had four pairs of catgut strings, the mandoline still has four pairs, but the larger *mandola* or *mandore* has eight pairs. The *theorbo* or *archlute* is a double-necked L.; the *chitarrone* has a very long neck. These two forms were superseded by the violoncello and the double-bass. Mozart, Bach, and Handel wrote parts for the instruments of the L. family. *See* Stainer and Barratt's *Dictionary of Music.*

Lutetia Parisiorum, the ancient tn. corresponding to Paris, founded in 53 B.C. by Julius Cæsar, who fortified it for strategic purposes.

Lütgendortmund, a tn. in the prov. of Westphalia, Prussia, 5 m. S.W. of Dortmund. It has collieries and sawmills. Pop. 14,984.

Luthardt, Christoph Ernst (1823-1902), a German Lutheran theologian, born at Maroldsweisach, Franconia. From 1854-56 he was professor at Marburg, and from 1856 till his death professor of systematic theology and N.T. exegesis at Leipzig. He edited t[illegible] *lutherische* [illegible] the *Theolog*[illegible] and the [illegible] *Wissenschaft und Chrisliches Leben*, 1880-89. He also published: *Das* [illegible] *den letzten Dingen*, 1861; *Geschichte der Christlichen Ethik*, 1888, besides contributions to Strack and Zöckler's *Kommentare.*

Luther, a tn. of Ontario, Canada, 9 m. S.W. of Wellsdon; has cotton manufs. Pop. 4000.

Luther, Martin (1483-1546), a German reformer and translater of the Bible, called the 'Founder of Protestant Civilisation.' He was born at Eisleben, in Saxony, of peasant parents. His father, Hans L., a slate cutter, and mother, Margaret, a very pious and industrious woman, moved after his birth to Mansfield. The boy was sent to school at Magdeburg, and then in 1498 to Eisenach, where he lived with Frau Ursula Cotta. His means were very restricted, and to earn a few coins he and some of his school friends sang occasionally in the streets. At the age of eighteen Martin L. entered the University of Erfurt,

where he received his first degree in 1503, and his doctorate two years later. He then began lecturing on the physics and ethics of Aristotle, and within a year, contrary to the desire of his father who had destined him for a legal profession, he entered an Augustinian monastery at Erfurt. During these years he passed through severe mental conflicts, and found much comfort in reading the works of Saint Augustine. He was consecrated a priest in 1507, and in the following year entered upon his duties as professor of philosophy to the new University of Wittenberg. He abandoned the impractical mode of teaching of the mediæval schoolmen, basing his philosophy on the rights of reason. He was much attracted by the works of William of Occam, an English schoolman, who preached ecclesiastical reform. In 1510 L. visited Rome on business connected with his monastic order, and was deeply moved at the irreligion and corruption of the papal court. On his return to Wittenberg in 1512, he was made doctor of theology. About the same time he began to preach at the desire of Staupitz, the vicar-general of his order, and attracted great crowds by his eloquence. He first became prominent in the direction of ecclesiastical reform, by his publication of ninety-five propositions, directed against the sale of indulgences by the Dominican monk, Johann Tetzel. These he pinned to the church door of Wittenberg Castle on October 31, 1517. Within a fortnight a German translation had spread through Germany. The original propositions were burnt as heretical, but L. refused to recant, and even refused to obey a papal summons to Rome. Yet it is apparent that at this time he did not contem-

p[illegible] with the
[illegible] the same
y his first
v[illegible] *he Seven Penitential Psalms*, which was soon followed by an *Exposition of the Ten Commandments* and of the *Lord's Prayer*. At a ge[illegible]
order in 1518, l[illegible]
worn scholastic[illegible]
and in the same year had a controversy with Dr. Eck. He also published his *Resolutions*, which emphasised his objection to the sale of indulgences. Though refusing to go to Rome, he agreed to meet Cardinal Cajetan at Augsburg, but the interview had no satisfactory results as far as the pope was concerned. If anything, L.'s position became more radical and his disciples increased every year.

In 1520 L. published three of his most important works, namely, *On the Liberty of a Christian Man*, *An Address to the Nobility of the German Nation*, and *On the Babylonian Captivity of the Church of God*. In these he attacked the supremacy of the pope and the doctrines of the Church of Rome. He appealed for tolerance and showed the practical need of the individual to approach God by his own prayer, without the intervention of a priestly mediator. He now realised fully that his separation from the Roman Catholic Church was inevitable. The pope replied to his attack by issuing a bull of forty-one theses. This bull L. burnt publicly at the Elster Gate of Wittenberg before a large crowd of students and sympathisers. In this same year Charles of Spain was crowned emperor at Aachen, and to his first German diet, held at Worms in January 1521, L. was summoned. L. seized the opportunity with gladness, and before the assembled powers of Germany made his confession of faith. He was placed under the ban of the empire, but received practical help from his many admirers. The news spread that he had been assassinated by papal emissaries. Germany was in a ferment of excitement. The fact of the matter was, as became known later, the reformer had been safely conducted to the castle of the Wartburg at the instigation of his friend, the Elector of Saxony. There he was virtually kept a prisoner, until the excitement should subside. He spent these hours of seclusion in hard study and in translating the Bible into German. Meanwhile, Lutheran opinions were spreading fast over Germany, which was threatened with disorders, and even with revolution. The trouble was worst at Wittenberg, where the populace had been excited by the teaching of the Zwickau prophets. L. left his retreat, and by reinstating order, established his own position as leader. He did his utmost to prevent the Peasants' War of 1525, and though opposed to the tyranny of the ruling classes, he urged them to suppress the insurgents in every way in order to procure peace. In this year, too, he became estranged from Erasmus, to whose treatise *De Libero Arbitrio* he replied hotly in *De Servo Arbitrio*. About the same time he married Catherine von Bora, a Cistercian nun, who with eight companions had escaped from her convent under the influence of his teaching.

At the diet of Speyer in 1526, it was resolved that both parties, Catholic and Protestant, should preach according to their conscience, but three years later the diet abolished this

clause, and added another to the effect that no religious body might be deprived of its ecclesiastical revenues, in other words that the Church of Rome retained the revenues of the mediæval church. The non-Catholic body *protested* against this edict and were, therefore, called Protestants. But the Protestants were divided among themselves on political questions as well as on the doctrine of the Lord's Supper. Zwingli and L. met at Marburg in this year to discuss their views on this question. To the diet of 1530 three separate Protestant confessions were sent, namely that of Zwingli, the *Confessio Tetrapolitana*, and the famous *Augsburg Confession*. L., being still in disgrace, did not appear in person. His place, as leader, was taken by Melanchthon. Charles was determined to suppress the Reformation. Finding compromise impossible, he enforced the edict of Worms against L. and his followers. The Protestant princes joined together to oppose the decisions of the diet and formed the Schmalkald League. The Reformation now became more political in aspect, and L. gradually retired from the leadership. In fact, after the drawing up of the *Augsburg Confession*, he lived in comparative privacy, but continued to do a great deal of work in organising the ecclesiastical polity of the new church and in suggesting its form of ritual. The Lutheran Church, differing from the Reformed Church, retained most of the mediæval ceremonies and vestment. Its chief distinction from the mediæval church was that the whole service (singing, reading of the scriptures, and preaching of the sermon), was conducted in German. Ill-health prevented L. from preaching as frequently as he would have liked. He died at Eisleben. L.'s writings were voluminous. The most interesting of those not already mentioned are *The Table Talk* and his *Letters*. He also wrote commentaries on the Bible, and many of his sermons are still read. His life was written by Melanchthon, *Historia de vita et actis Lutheris* (1545). Consult also the Lives by Meurer (3rd ed., 1870), Michelet (trans. by Hazlitt, 1846), Kolde (2 vols., 1884-93), Köstlin (3rd ed., 1883), Hausrath (1904). *See* Lindsay, *Luther and the German Reformation*, 1900; and Dr. Beard, *Martin Luther and his Reformation in Germany until the Close of the Diet of Worms*, 1889. The chief editions of his works are those of Wittenberg (12 vols., 1539-58); Halle (24 vols., 1740-53); Erlangen and Frankfort (67 vols., 1826-73); re-issue Weimar (1883); people's ed. (1892).

Luti, Benedetto (1666–1724), an Italian painter, born in Florence and died at Rome. He painted in fresco, in oil, and in pastel. His first notable picture was the 'St. Antony of Padua' at Rome, and his masterpieces, 'The Vest of San Ranieri' in the Cathedral of Pisa, and 'Love and Psyche' in the Capitole. Two of his 'Magdalenes' are in the Louvre.

Luton, a market tn. of Bedfordshire, England, 19 m. S. of Bedford. It employs 20,000 hands in the manufacture of hats and bonnets, the straw-plaiting industry having been founded by James I. There are also brass, iron, and motor-car works, and felt-hat factories. Two fairs are held annually, in April and October. The chief buildings are St. Mary's Church, in the Decorated style, with some Early Perpendicular work, and the Plait Hall (1869). Pop. (1911) 50,000. *See* F. Davis, *History of Luton*, 1855.

Lutsk (Polish, luck), a tn. in the gov. of Volhynia, S. Russia, 51 m. N.W. of Kovel. It is the seat of a Roman Catholic bishop. It has belonged to Russia since 1791. Pop. 17,700.

Lutterworth, a market town of Leicestershire, England, 6¼ m. N.N.E. of Rugby. St. Mary's Church contains the pulpit and various relics of John Wyclif, who held the living from 1374 till his death in 1384. There is considerable trade in agricultural produce. Pop. (1911) 9932.

Lüttich (Belgium), *see* LIÈGE.

Lüttringshausen, a tn. in Rhenish Prussia, 5 m. S.E. of Elberfeld. It has important manufactures of ironmongery, silk, calico, cloth, and brandy. Pop. 13,559.

Lutzelburgher (or **Leutzelburger**), Hans, a Swiss wood-engraver of the 16th century, a native of Basel. Among the most celebrated engravings attributed to him are several from drawings by Holbein.

Lützen, a tn. in Prussian Saxony, 9 m. S.E. of Merseburg. It was the scene of two battles. In 1632 the Swedes defeated the Austrians, but their king, Gustavus Adolphus, was killed. A granite stone, Schwedenstein, and a monument were erected where he fell. The second battle was in 1813, when Napoleon defeated the allied forces of Prussia and Russia. Pop. 4082.

Lützow, Ludwig Adolf Wilhelm, Freiherr von (1782-1834), a Prussian soldier, born in Brandenburg. He entered the army in 1795, and saw active service at the battle of Auerstadt and the siege of Colberg. At the outbreak of the War of Liberation (1813), he raised a volunteer corps of infantry and cavalry which was called the 'Black Rifles.' The corps was dissolved in 1814, becoming the 25th

Regiment. L. led a gallant charge of the 6th Uhlans at Ligny (1815). He was promoted to the rank of lieutenant-general in 1830. *See* K. von Lützow, *Adolf Lützows Freikorps*, 1884, and F. von Jagwitz, *Geschichte des Lützowschen Freikorps*, 1892.

Luxembourg, a prov. in the S.E. of Belgium. Area 1706 sq. m. It is in the region of the Ardennes, and is watered by tributaries of the Moselle. Its products are slate, iron, and manganese; the chief industries are boots and shoes, gloves, pottery, and steel works. Pop. 226,000.

Luxembourg, François Henri de Montmorency - Bouteville, Duc de (1628-95), marshal of France, cousin of the great Condé, born in Paris. He shared Condé's fortunes in the wars of the Fronde, was pardoned by Louis XIV. on his return to France (1659), and subsequently was created a peer of the realm (1661). He served in the Netherlands (1667), and defeated William of Orange at Woerden (1672). His retreat from Utrecht (1673), in the face of such tremendous odds, was a masterly exploit that won for him a high reputation. In 1690 he defeated the allied troops at Fleurus, and put his old enemy, now William III., to route at Steinkirk (1692) and Neerwinden (1693). See *Histoire Militaire du Duc de Luxembourg* by Beaurain (1756), and the biography by Count de Ségur (1907).

Luxembourg Palace, in Paris, on the S. side of the Seine, was erected by Marie de Medici, and in 1879 became the meeting-place of the Senate. Attached to it is a gallery in which are exhibited the works of living artists. *See* PARIS.

Luxemburg: 1. An independent grand-duchy of Europe, bounded on the N. and E. by Prussia. Area 998 sq. m. The southern part belongs to the plateau of Lorraine, and the northern, which is still higher, consists of the forest of Ardennes. The country is watered by the Sauer and affluents of the Moselle, which forms part of its eastern border. The soil is very fertile, particularly in the S., and agriculture is the chief industry. Stock-raising is carried on and there are important iron mines. The principal manufactures are pottery, woollens, gloves, leather, spirits, beer, sugar, paper, etc. The reigning grand-duke is Wilhelm (*b.* 1852), who succeeded in 1852. The legislative power is vested in a House of Representatives, numbering forty-five, who are elc
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Pop. (1910) 259,891, nearly all Roman Catholics, speaking a German dialect with an admixture of French. The counts of L. took their name from the castle of Lützelburg, which was acquired by the first Count Siegfried in 963. In 1308 Count Henry became Henry VII., Emperor of Germany. Henry's grandson, Charles IV., raised it to the rank of a duchy in 1354. In 1443 it was united with Burgundy, till 1659, when it fell to France. By the Treaty of Utrecht (1713) it was ceded to Austria, but was re-annexed to France at the Peace of Campo-Formio (1797). At the Congress of Vienna (1815) it was created a grand duchy and part of the German confederation, and by the Treaty of London (1867) it was declared a neutral independent state. 2. The cap. of the above, situated on the Alsette, 42 m. N. of Metz. It consists of two parts; the Oberstädte stands on a rocky cliff and is connected with the Unterstädte, lying in a ravine, by flights of steps. The chief buildings are the Gothic Cathedral of Notre Dame, the Palais du Roi (1580), and the town hall. Pop. 21,000. *See* Passmore, *In the Further Ardennes*, 1906.

Luxeuil (ancient *Lixovium*), a tn. in the dept. of Haute-Saône, France, 27 m. N.W. of Belfort, is famous for its mineral baths, known to the Romans. It contains many interesting remains. St. Columba founded a monastery here in 590, destroyed in the 9th century. The chief manufactures are paper, cotton, and wines. Pop. 5500.

Luxor, *see* THEBES.

Luxulian, a tn. in the co. of Cornwall, England, 6 m. S.W. of Bodmin.

Luynes (or Luines), Charles d'Albert, Duc de (1578-1621), a courtier of Louis XIII., son of Honoré d'Albert (*d.* 1592), governor of Beaucaire. He instigated the assassination of Concini (1617); as governor of Picardy suppressed a rising of nobles (1620); and after being appointed Constable of France (1621), headed an expedition against the Protestants. See *Recueil des pièces les plus curieuses qui ont esté faites pendant le règne du connestable M. de Luynes* (2nd ed.), 1624.

Luz (Almond): 1. The old name of Bethel, a tn. in Palestine, 9¼ m. N. of Jerusalem. 2. A tn. in the land of the Hittites, Palestine, whose position has not been identified.

Luzan, Claramunt de Suelves y Gurrea, Ignacio (1702-54), a Spanish poet and man of letters, born at Saragossa. He was appointed secretary to the Spanish legation in Paris (1747-50),

and treasurer of the Royal Library at Madrid (1751). His literary reputation was made and still remains on his criticism of poetry, *La Poética ó Reglas de la poesia en general y de sus principales especies*, 1737.

Luzern, *see* LUCERNE.

Luzerne, a tn. in the co. of L., Pennsylvania, U.S.A., 2 m. N. of Wilkesbarre. It has iron foundries, factories, and flour mills. Pop. (1910) 5426.

Luzon, or Luçon, the largest and most northerly of the Philippine Is. Area 40,969 sq. m. The coast-line is much indented, the principal inlets being the Gulf of Lingayén and Manila Bay on the W., Tayabas and Ragay bays on the S., and the bays of Lagonoy, San Miguel, and Lamón on the E. The island is very mountainous, the chief range being the Cordilleras. The highest peak is the volcano Mayón (7566 ft.). There are six chief rivers: Rio Grande de Cagayán, Agno Grande, Abra, Rio Grande de la Pampanga, Vicol, and Pasig, besides many streams and lakes. The vegetation is tropical and luxuriant. The chief manufs. are silk, tobacco, ivory carvings, and mats. Pop. 3,798,507.

Luzula (It. *Lucciolia*), a genus of perennial rushes of the order Juncaceæ. Six species are British. They are characterised by soft flat hairy leaves more grass-like than the other rushes. The clusters of flowers have prominent yellow anthers, and their sparkling appearance by moonlight when wet with dew is supposed to give them some resemblance to the glow worm.

LXX. (abbreviation for Septuaginta), the Septuagint, the Greek version of the O.T., said to have been made by seventy translators at Alexandria about 300 B.C.

Lyall, Sir Alfred Comyn, P.C., K.C.B. (1835-1911), an English administrator. He became governor of the N.W. Provinces of India in 1882, and in 1888 was appointed a member of the Council of India. His sympathy with the character and difficulties of the Indian people won for him a position of authority, and his *Asiatic* [illegible]

Hastings; a volume on the rise of British dominion in India; a criticism of Tennyson (1902); and *The Life of Lord Dufferin*, 1905.

Lyall, Edna (1857-1903), pseudonym of Ada Ellen Bayly, a novelist, was the author of numerous works of fiction, which appeared between 1879 and 1901. Her first book *Won by Waiting*, 1879, was almost still-born, but attention being attracted to it by the success of her subsequent stories, it was republished and ran through many editions. Her best books were *Donovan*, 1882, and its sequel, *We Two*. In 1886 some person claimed to be E. L., and to refute this statement, and to dispose of a rumour that the novelist was in a lunatic asylum, she announced her identity and published the *Autobiography of a Slander*, 1887. There is a biography by J. M. Escreet (1904).

Lycanthropy (Gk. λύκος, wolf; ἄνθρωπος, man) was the power attributed to certain mortals of changing themselves into wolves. It was also used in a broader sense, and applied to the metamorphosis into any animal, *i.e.* tiger, dog, bear, fox, etc. Herodotus relates that the heuri turned to wolves for a few days every year, and in Virgil's eighth Eclogue we read how Mœris makes himself a wolf by means of poisonous herbs. Again, the Khonds of Orissa think men can become tigers by the help of a god in order to avenge their enemies, and the Budas of Abyssinia, iron workers, and potters, have the power of turning into hyænas. In the Scandinavian sagas, too, there are 'werewolf' warriors of peculiar ferocity, and the belief is still current in Denmark that a werewolf can be recognised by his eyebrows meeting.

Lycaon, in Greek mythology, the son of Pelasgus, and king of Arcadia. Various stories are told of him, according to some he was a barbarian, who even defied the gods, while others describe him as the first civiliser of Arcadia, who built the town of Lycosura, and introduced the worship of Zeus Lycæus. He was the father of fifty sons who were notorious for their impiety. They were visited by Zeus, and entertained the god by setting before him a dish of human flesh. Zeus pushed away the table which bore the horrible food, and either killed L. and his sons by a flash of lightning, or turned them into wolves.

Lycaonia, a prov. of Asia Minor in ancient times, bounded on the N. by Galatia. According to Strabo it was a bleak country, well adapted as
re-land for sheep and wild
indeed, King Amytas is said
ive possessed over 300 flocks of sheep. It suffered from dearth of water, which was probably aggravated by the abundance of salt in the soil. The inhabitants were a hardy and warlike race, which owned no subjection to the Persian monarchs, and lived by plunder and foray.

Lyceum, The (τὸ Λυκειον), the name of an ancient gymnasium and garden with covered walks at Athens. It was situated S.E. of the city, out-

side the walls, just above the R. Ilissus, and received its name from the temple of Apollo Lyceus in the vicinity. Here it was that Aristotle and the Peripatetics taught, and it was also the place where the Polemarch administered justice.

Lyceum Theatre, in Wellington Street, Strand, was first built in 1795, and received its licence in 1809 when the Drury Lane Company took it over. Since then it has been rebuilt more than once, and has been the scene of many remarkable performances, notably those by Mrs. Keeley and Edmund Kean, Planché's 'fairy extravaganzas,' and Beverley's transformation scenes. Irving first appeared at the Lyceum in 1871 under [illegible] and played [illegible] remarkable [illegible] *Hamlet*, [illegible] 1878 he opened the theatre under his own [illegible] *Hamlet*, and [illegible] *Venice*, with [illegible] and Portia. [illegible] had a remarkable effect on the English stage; the Lyceum stage management, and the brilliancy of its productions in scenery, dressing, and accessories, were revelations in the art of *mise-en-scène*. But in 1899 the theatre passed into the hands of a limited liability company, and since then it has rather deteriorated in the character of its performances, being devoted mainly to the production of second rate plays and pantomimes.

Lycia, a mountainous country on the S.W. coast of Asia Minor, occupied an important place in the Homeric accounts of the Trojan War. It was originally peopled by two races, the Solymi and the Termilæ, afterwards it was conquered by the Persians and the Syrians, and then by the Romans. The principal cities were Xanthus, Patara, Myra, Telmessus and Phaselis, and during its independence it was ruled by a governor called the Lyciarch. Many interesting remains have been discovered in this region, the monuments and other antiquities showing a close relationship to the Greek forms. *See* Grote's *History of Greece*.

Lyck, a tn. of E. Prussia, stands on Lake Lyck, 90 m. S.E. of Königsberg. It has manufs. of machinery, mineral waters, etc. There is an old castle, which belonged to the Teutonic knights, situated on an island in the middle of the lake. Pop. 13,427.

[illegible]

sired his protection, L. led his guest to an elevated place and killed him by throwing him down a precipice.

Lycophron (c. 260 B.C.), an Alexandrian grammarian and poet, was a native of Chalcis in Eubœa. Ptolemy Philadelphus entrusted to him the arrangement of the Alexandrian library, and in the execution of this task L. drew up an extensive work on the Greek comic poets. He is said to have been a skilful composer of anagrams, and also wrote many tragedies, but his *Cassandra* is the only poem which has come down to us.

Lycopolis, an ancient tn. of Upper Egypt, on the site of which the town of Assiout now stands.

Lycurgus (c. 825 B.C.), 'the legislator of Sparta,' was son of Eunomus, King of Sparta. Becoming guardian to his nephew, the infant king of Sparta, L. set out on extensive travels that he might not be suspected of ambitious designs. On his return he found the country in a state of anarchy and moral degeneracy. His countrymen welcomed him as their saviour, and besought him to put their state to rights. After fulfilling this task and giving Sparta the constitution which laid the foundations of its greatness, he obtained an oath from the Spartans that they would change nothing before his return from further travels. That the constitution might remain permanently inviolate he departed into exile with the intention that it should be life-long. It is not known where or how he died. L. was honoured as a god, a temple was built in his honour, and sacrifices offered down to a late period.

Lycurgus (c. 390-329 B.C.), one of the ten Attic orators. He was of noble family, a disciple of Plato and Socrates, and one of the principal supporters of Demosthenes as a patriot and an adversary of the aggressive Macedonian monarch. As a statesman and citizen he was conspicuously upright and active. He administered the finances of Athens for twelve years, and during this time he increased its revenue, beautified the city, and served the cause of literature by preserving in its archives copies of the plays of Æschylus, Sophocles, and Euripides. One only of his orations (that against Leocrates) is extant.

Lydbrook, or Lidbrook, a par. in [illegible] m. E.N.E. [illegible] and iron-[illegible] 74.

Lydd, a bor. of Kent, 3 m. S.S.W. of New Romney. It has manufactures of the powerful explosive called lyddite, and possesses a government artillery range. Pop. (1911) 2874.

Lydda, or **El Ludd** (Gk Λύδδα, Heb. *Lōd*), an ancient city of Palestine, situated in the plain of Sharon, 11 m. S.E. of Joppa. It was renamed Diospolis in the 2nd century A.D., and is referred to in both the O.T. and N.T. St. George is said to have been born and buried here, and in the 4th century a bishopric was instituted under his name. The church erected over his tomb has been repeatedly destroyed and rebuilt.

Lyddite, a modern military high explosive, manufactured at Lydd in Kent. Chemically it is picric acid ($C_6H_2(NO_2)_3.OH$), and is prepared from carbolic acid by the action of nitric acid. It is a bright yellow solid crystalline, and bitter to the taste. Like cordite, it is difficult to detonate. It is poured into shells when molten, and on bursting gives pungent, suffocating fumes.

Lydenburg, or **Leydenburg**, a tn. of the Transvaal, S. Africa, situated on a trib. of Olifant's R., 144 m. E.N.E. of Pretoria. It is the capital of the Lydenburg district, which is rich in gold deposits, chiefly alluvial. The town does a thriving trade in agricultural produce, etc., and has a good market. There are Dutch and English churches, and a government school. Pop. 1500.

Lydford, a par. in Devonshire, England, 11¼ m. E. of Launceston. It was a walled town before the Conquest, and for many centuries was the capital of the Devonshire 'stannary,' owing to its important position on the edge of the great tin district of Dartmoor. Pop. (1911) 2800.

Lydgate, John (c. 1370-c. 1450), an English poet, born at Lydgate, Suffolk. After studying philosophy at Oxford, he travelled in France and Italy, where he became a master of continental poetry. L. was an admirer and imitator of Chaucer, his *Storie of Thebes* being represented as a new Canterbury tale; he produced many other poems, including the *Troy Book*, the *Falls of Princes*, a *Life of St. Edmund*, and *The Legend of St. Alban*.

Lydia, in ancient geography, a country of Asia Minor, lying between the Ægean Sea and Mysia, its actual boundaries varying considerably at different periods. The name *Luddi* is found among the inscriptions of an Assyrian king, Assur-bani-pal (c. 660 B.C.), who received tribute from Gyges, the first of the Mermnad dynasty of Lydian kings. Homer writes of the Mæonians and their capital, Sardis; Herodotus states that the *Meiones* (Mæonians) were called Lydians after Lydas, the son of the mythical Attis, whose dynasty preceded the Heraclidæ. The last of the Heraclid dynasty, Candaules, was murdered by Gyges; the story in Herodotus of Candaules' wife is familiar. Gyges established the Mermnad dynasty (687 B.C.). He made war with Assyria, but was freed to pay tribute; he also sent troops to Psammetichus in Egypt. He was killed in an invasion of the leal Cimmerians in 652, and was succeeded by Ædys, and then by the latter's grandson, Alyattes, under whom L. became a great maritime power, gradually encroaching on the Greek Ionian towns of the western coast, while an alliance between his daughter and Astyages brought peace with the Medes. The Cimmerians were finally subdued, and under his successor, Crœsus, L. became an empire ruling all Asia Minor with the exception of Lycia. In 596 B.C., after fifteen years' rule, Cyrus captured Sardis and its king, and it became the capital of the W. in the great Persian empire. L.'s later history is, therefore, that of Persia and the great Persian war with Greece. Under the Romans it was part of the proconsular province of Asia. At the period of its great prosperity L. was the great industrial centre of the East; possessing a healthy climate, wonderfully fertile, with the gold so long associated with the R. Pactolus, legend credited it with many inventions; the earliest coinage was attributed to it, while dicing and games of various kinds also were said to have first been played by the Lydians. Nature-worship formed its religion, centring round the Great Mother, Cybele.

Lydney, a tn. in Gloucestershire, England, on the Severn, 16 m. W.S.W. of Gloucester; it has coal and iron mines. Pop. (1911) 9005.

Lydus, Joannes Laurentius (c. 490-565), a Byzantine writer, born at Philadelphia, in ancient Lydia, and at the age of twenty-one went to Constantinople and studied philosophy under Agapius. He held various civil positions, and was rewarded by being appointed matricularius and by various other marks of distinction. None of his poetical works have been preserved; his prose compositions include *De Mensibus Liber*, a treatise on the Roman calendar, and *De Magistratibus Republicæ Romanæ*.

Lye. Caustic Ls. are solutions of potash and soda; mild Ls., of their carbonates. Mother L. is the fluid remaining after crystallisation from solution.

Lye, Edward (1694-1767), a scholar and clergyman, born at Totnes, Devonshire. Having been ordained in 1717 he was appointed vicar of Houghton Parva, Northamptonshire,

in 1721, and began his study of Anglo-Saxon, Gothic, etc. In 1743 he published the *Etymologicum Anglicanum* of Junius, to which he added an Anglo-Saxon grammar, and in 1750, [illegible] *and* [illegible] lished

Lye, The, a par. in Worcestershire England, 1½ m. E. of Stourbridge. There are coal mines in the vicinity, and the manufs. of the district are fire-bricks, anvils, vices, etc.

Lyell, Sir Charles, first Baronet (1797-1875), a geologist, born near Kirriemuir in Forfarshire. He studied at Exeter College, Oxford, where he was attracted to geology by the lectures of Dr. Buckland, and in 1819 joined the Geological and the Linnean societies of London, being elected secretary of the former in 1823. He was elected F.R.S. in 1826, and in 1830 published the first volume of his *Principles of Geology*, the summary of which is given in the continuation of the title, 'being an attempt to explain the former changes of the earth's surface, by reference to causes now in action.' The second and third volumes appeared in 1832 and 1833 respectively, and the whole work was reprinted in four smaller volumes in 1834. The book was popular from the first, and by 1875 had run through twelve editions; indeed it was one of [illegible] tions of his great *Geology inciples, ica, with Geological Observations*, 1845; *A Second Visit to the United States of North America*, 1849; *The Antiquity of Man*, 1863; and *The Student's Elements of Geology*, 1871. He was professor of geology at King's College, London, 1831-33, and president of the Geological Society, 1835-36 and 1849-50. He was knighted in 1848, and created a baronet in 1864.

Lykewake, or Lychwake, *see* WAKE.

Lyly, John (1553-1606), a dramatist and author of *Euphues*, born in Kent. He took his degree of B.A. at Magdalen in 1573, and his M.A. in 1575, but he also studied at Cambridge, and was [illegible] at that university [illegible] year the first part *Anatomy of* [illegible] at once bec [illegible] followed by [illegible] in 1580, which brought him unde notice of Lord Burghley, who him some employment. After he wrote light plays to be performed at court by the children's acting companies of the Chapel Royal at St. Paul's, London, among which were *Campaspe* and *Sapho and Phao*, produced 1584. In 1589 he championed the cause of the bishops in the Martin [illegible] ate controversy, and published a tract entitled *Pappe with an* [illegible] and in 1589 entered parliament for Hinton, being subsequently elected for Aylesbury in 1593, for Appleby in 1597, and again for Aylesbury in 1601. L.'s chief work was his *Euphues*, which, although a very tedious story, is remarkable for its prose style, which is chiefly characterised by a continuous straining after antithesis and epigram. The novelty of this style was generally acknowledged in his own day, and received the name of 'euphuism.' L. also enjoyed some reputation as a writer of comedies, and is described as 'eloquent and witty,' but his plots are loosely fashioned, and his language artificial, the only attractive feature of his plays being the lyrics. Among his best comedies are *Alexander and Campaspe*, *Midas*, and *Endymion*.

Lyme-Regis, a seaport and watering-place of Dorset, England, stands on the Lyme near the entrance to the English Channel. It was chartered by Edward I., and incorporated by Elizabeth; in 1685 it was the landing-place of Monmouth. The Lias rocks in the vicinity have yielded remains of the Ichthyosaurus and Plesiosaurus. Pop. (1911) 2772.

Lymington, a seaport and watering-place of Hampshire, England, stands on the river of the same name, 12 m. S.W. of Southampton. Yacht-building forms the chief industry. Pop. (1911) 4329.

Lymm, a par. and tn. of Cheshire, England, 5 m. E. of Warrington, Lancashire. Pop. (1911) 4989.

Lymph (Lat. *lympha*, water), a slightly yellow, waterish, somewhat salt, alkaline fluid pervading all the tissues of the body, and originating as an exudation of blood plasma from the capillaries. It is a medium acting between the cells and the blood, and performs a double function; conveying waste matter from the tissues to the blood and providing new substance for the formation of blood. Chemically L. shows no difference from blood itself except in the red [illegible] it contains corpuscles not [illegible] from the colourless [illegible] es. Under the microscope it shows fat globules and [illegible] [illegible] is poured into large veins near the heart, supplying to the blood the

corpuscles or lymphocytes collected in the lymphatic glands. In its course through the intestines, after collecting the digested food at the villi, it becomes milky owing to the absorption of fat molecules; this fluid is known as chyle, and the vessels as lacteals.

Lymphatics, known also as *absorbents*, are the vessels which carry the lymph (*q.v.*) throughout the body. They absorb the waste products of tissues and collect the final products of digestion, the former then to be excreted by skin, lungs, and kidneys, the latter to renew the blood and tissue. The L. of the small intestine are known as *lacteals*, and convey *chyle*. The structure of L. resembles that of veins and arteries; they have three coats, fibrous, muscular, and epithelial; they are minute tubes showing a characteristic knotted appearance due to semilunar valves which direct and regulate the flow of lymph; they continually bifurcate, and before entering a L. gland divide into branches. They originate as minute rootlets forming capillaries which enter larger vessels, or the glands themselves, and form two sets; the superficial L. lying immediately beneath the skin at the surface of the body, and the deep L. in the interior of the body lying in the areolar tissue; the former communicate with the latter which are larger. The final vessel of the L. system is the *thoracic duct*, which enters the system of circulation at the junction of the subclavian and jugular veins on the left. Another duct, the right L., enters the right subclavian and conveys lymph from the right side of the body from the chest upwards. The L. glands are small solid kidney-shaped bodies, usually compared in size to variation from hempseed to the almond; there are again two sets, (1) in the thorax and abdomen, the deep set, (2) the superficial set distributed in the groin, the ham, the armpits, and the neck. The L. thus form a circulatory system regulated by valves, and, owing to direct connection with blood circulation, enforced by the heart. There is no direct communication between the blood and lymph capillaries; the blood plasma exudes and bathes the tissues, and is absorbed with foreign matter collected into the L. The L. system is subject to disease. Lymphangitis or inflammation of the L. occurs with enlargement in the neck as an accompaniment to scrofula; *Bubo* is an affection in the groin. Lymphosarcoma may need surgical treatment. Dealing as lymph does with the intimate cell-life of the body, communicating with the blood-vessels direct, one of its main functions being absorption of foreign matter, it is liable to poisoning, particularly by bacteria and the tubercle bacilli. An uncommon but fatal occurrence is the stoppage of circulation of the lymph.

Lynceus: 1. In Greek legend, was the son of Ægyptus and Argyphia, and married the Danaid, Hypermnestra, by whom he had one son, Abas. He became king of Argos, and was buried there near the altar of Zeus Phyxius. 2. In Greek legend, a son of Aphareus and Arene, was one of the Argonauts, and was famous for the keenness of his sight. He took part in the Calydonian hunt, and was slain by Pollux.

Lynchburg, a city of Virginia, U.S.A., stands on the James R., 124 m. W. by S. of Richmond. Tobacco is the chief export, and there are manufs. of brass, iron, flour, farming implements, furniture, etc. Pop. (1910) 29,494.

Lynch Law, a phrase denoting mob vengeance without form of law on a person suspected of having committed a crime. At the present day it is heard mainly in regard to the hanging of negroes in the United States for assaults on white women. The origin of the term is variously ascribed to the name of Colonel Lynch, who illegally whipped Tory conspirators in 1780; and James Lynch Fitz-Stevens, mayor of Galway, who in 1493, acting on the classic precept of Brutus, tried his son for murder, and when prevented from publicly executing him, hanged him from the window of his own house. In American law all present and consenting at a person's death by lynching are guilty of murder in the first degree, unless the act were committed in sudden anger; which saving clause, together with American colour-prejudice, operate to secure the exculpation of most lynching parties in that country. Confessions extorted under the fear of L. L. are generally inadmissible in evidence.

Lyndhurst, a vil. of Hampshire, England, is beautifully situated in the New Forest, 8 m. W.S.W. of Southampton; it contains the 'king's house,' or residence of the warden of the Forest. Pop. (1911) 4108.

Lyndhurst, John Singleton Copley, Baron (1772-1863), Lord Chancellor, born at Boston, Massachusetts. He was brought to England at an early age, and studied at Trinity College, Cambridge. In 1804 he was called to the bar, and joined the Midland circuit, and in 1812 became popular at Nottingham by defending a Luddite rioter, John Ingham. In 1819 he became chief justice of Chester, Solicitor-General, and received the

order of knighthood. He was Attorney-General from 1824-26, and became Master of the Rolls in 1826. As Baron L. he was Lord Chancellor under three administrations, 1827-30, when he was made Chief Baron of the Exchequer. He was again Lord Chancellor, 1834-35, and took a leading part in the debates in the Lords, 1835-41. He was high steward of Cambridge University, 1840, and Chancellor for the third time, 1841-46. He made his last speech in the Lords in 1861.

Lyndsay, Sir David, *see* LINDSAY, SIR DAVID.

Lyndsay of Pitscottie, *see* LINDSAY, ROBERT, OF PITSCOTTIE.

Lyne, Rev. Joseph Leycester, *see* IGNATIUS, FATHER.

Lynedoch, Thomas Graham, Lord (1748-1843), a general, was the third and only surviving son of Thomas Græme, laird of Balgowan, Perthshire. In 1793 he joined Lord Hood's fleet in the Mediterranean as a volunteer, and on returning home he raised a battalion known as the 'Perthshire Volunteers.' He became brevet-colonel in 1796, and was appointed British military commissioner with the Austrian army in Italy, 1798. After the Peace of Amiens, he took up parliamentary duties until 1808, when he accompanied Sir John Moore to Sweden and Spain as aide-de-camp, being present in the Corunna retreat. His most memorable victory was the defeat of the French at Barossa, March 1811; during the rest of the Peninsular War he acted as second in command to Wellington, and for his services was created Baron L. of Balgowan, 1814.

Lynmouth and Lynton, two picturesque villages of N. Devon, stand on the Bristol Channel, 12 m. E. of Ilfracombe. Lynmouth is on the shore, at the base of a lofty cliff, and Lynton nestles on the hillside, 428 ft. above. A cliff-railway has been built connecting the villages. Pop. (1911) of Lynmouth, 400; of Lynton, 1770.

Lynn, a seaport of Essex co., Mass., U.S.A., stands on Massachusetts Bay, 10 m. N.E. of Boston. It has important boot and shoe manufs., and large tanneries. Pop. (1910) 89,336.

Lynn Canal, an inlet of the Pacific, off the coast of Alaska, is an important entrance to the Klondyke region. It divides into the Chilkat and Chilkoot inlets, and at the head of the latter are Skagway and Dyea. Chilkat village stands at the junction of the two waterways.

Lynn Regis, *see* KING'S LYNN.

Lynx, the name of a small northern constellation introduced [illegible] in 1690; it lies betwe[illegible] Bear and Auriga, N. of [illegible] its ten brightest stars are of the fifth magnitude.

Lynx, the general name for a widely distributed genus of fierce, bloodthirsty Felidæ. Of the two European Ls., the Northern L. ranges throughout Scandinavia and N. Russia, but is very scarce. The Southern or small spotted L. is common in the less frequented parts of Southern Europe. The African L., or Caracal (*q.v.*), occurs throughout the African continent, and there are four species in the New World. Ls. are larger than the true wild cats, and have long limbs, the tail is short, the ears are tipped with a tuft of hair, and the cheeks are bearded. The soft valuable fur is light brown or grey with darker spots varying according to species.

Lyon Court, in Scots law, the court of the Lyon King-of-Arms, who derives his title of 'Lyon' from the lion rampant on the armorial bearings of the Scottish kings. As officer-of-arms he corresponds to the Garter officer in England, though unlike the latter he is not under the control of the Earl Marshal, an office which has ceased to exist in Scotland. The office and its duties are very ancient, for, according to Sir James Balfour, the Lyon King-of-Arms, and his heralds and pursuivants, attended at the coronation of Robert II. in 1371. Originally the functions of the office were mainly ministerial, *e.g.* they comprised the 'denouncing' war, proclaiming peace, and carrying public messages. His existing jurisdiction in regard to the inspection of arms and ensigns-armorial of the Scottish nobility and gentry was conferred by Acts passed in 1592 and 1672, and was expressly reserved by the treaty of Union. The chief duties appertaining to the office are: (1) To keep the register of all arms and bearings; (2) to matriculate such arms; (3) To fine those who use arms which are not 'matriculated' (*i.e.* recorded) in his books; (4) prepare funeral escutcheons; (5) to appoint, deprive, or suspend messengers by the advice of the Court of Session; (6) to inquire into and decide questions relating to family representation and claims to coats of arms; (7) to marshal state processions. The decisions of the L. C. as to the matriculation of arms are subject to review by the Court of Session. In 1867 the office was by statute made a government office, and the fees appertaining to it directed to be paid to the Treasury, and the same Act provided that the Lyon King-of-Arms should discharge his duties personally, and not by [illegible] and, further, that he should be [illegible] salary. The other and sub-officers of the L. C. are the

heralds, pursuivants, and messengers; the last-named being originally called officers-of-arms. There are now six heralds and pursuivants with nominal salaries. The principal duties of a messenger-of-arms are to execute all summonses and letters of diligence, both in civil and criminal matters. The insignia of the Lyon are a crown of gold at royal coronations with the motto *Miserere mei Deus secundum tuam misericordiam;* a velvet tabard worn on all occasions of public ceremonial, while his baton of office is powdered with roses, thistles, shamrocks, and fleurs-de-lys. *See* Green's *Encyclopædia of Scots Law;* Erskine's *Principles of the Law of Scotland.*

Lyonesse, the scene of most of the Arthurian romances, was a legendary country off the coast of Cornwall, England. It is described in early English chronicles as actually existing and being in a very flourishing state until its sudden disappearance beneath the sea. It was the scene of the 'last great battle of the West,' and of the final conflict between Arthur and Sir Modred.

Lyonia, a small genus of flowering shrubs and trees of the order Ericaceæ, with small white pitcher-shaped flowers, and alternate leaves, closely allied to the genus *Andromeda (q.v.). L. paniculata* is hardy in a moist shady border, and *L. ferruginea* is grown in the greenhouse, flowering in spring. A later flowering species is *L. jamaicensis.*

Lyon King-of-Arms, *see* LYON COURT.

Lyonnaise, an ancient prov. of France, was bounded on the W. by Auverne, and on the S. by Languedoc, and the cap. was Lyons. It is now included in the departments of Rhone, Loire, Haute-Loire, and Puy-de-Dôme.

Lyons (Fr. *Lyon*, the ancient *Lugdunum*), a city of France, cap. of the Rhône dept., at the confluence of the Rhone and Saône, 170 m. N.W. of Marseilles. It occupies an admirable position at the meeting-place of roads and railways, and is second only to Paris in commercial and military importance. It consists of a city proper, between the rivers on a peninsula, and numerous suburbs on the l. b. of the Rhone and the r. b. of the Saône, surrounded by gardens [illegible] the ancient [illegible] de Fourvière is the most elevated, but besides this there is the cathedral of St. Jean, begun in the 12th century, one of the finest examples of Gothic architecture in France; the church of St. Martin d'Ainay, the oldest in L., dating from the 6th century; and the Hôtel Dieu, one of the chief charitable establishments in the city, said to have been founded in the 6th century. There are also Roman remains, baths, tombs, and the relics of a theatre, and traces exist along the Rhone of a subterranean canal. It is the seat of a national court, of a university academy for the departments Rhône, Loire, and Aix, and of an archbishop, bearing the title of 'Primate of all the Gauls.' There is also a school of medicine, a mint, a national college, a library of 140,000 volumes, a museum, a botanic garden, a school of design, and a national veterinary school. It is a fortified town, being the principal fortress of the interior of France, and, like Paris, possesses a military governor. It has manufactures of all kinds, the most important being the silk industry in all its branches. There are also manufactures of machinery, copper, bronze, leather, starch, jewellery, iron goods, tobacco, hats, chocolate, and glass goods. Its trade consists in silk and silk goods, cloth, coal and charcoal, metals and metal goods, wine and spirits, cheese and chestnuts. L. was founded in 43 B.C., and became the capital of Celtic Gaul, or the Lyonnaise. It was rebuilt by Nero and also by Constantine, and was the residence of the Burgundian kings to the end of the 5th century. It was annexed to France in 1312. Pop. 520,795.

Lyons, the cap. of Wayne co., New York, U.S.A., stands on the Erie Canal and the Clyde R., and has extensive manufs. of silver ware, agricultural implements, etc. Pop. (1910) 5824.

Lyons, Edmund, Lord (1790-1858), an admiral. In 1803 he joined the *Active* frigate, and four years later was sent to the E. Indies in the *Monmouth.* He was appointed flag-lieutenant on the *Minden* in 1810, and in the following year distinguished himself in an attack on the Dutch off the coast of Java. He received his commission as commander in 1812, and was advanced to post-rank in 1814; from 1828-33 he was stationed in the Mediterranean, and in 1835 he was appointed minister and plenipotentiary at the court of Athens. He took a prominent part in the attack on Sebastopol, and during the latter part of the Crimean War held the position of commander-in-chief of the fleet.

Lyons, Richard Bickerton Pemell (1817-87), a diplomatist. In 1858 he was appointed British minister at Washington, on the eve of the Civil War. After three years of difficult negotiations, his health broke down, and he was allowed to resign; he became ambassador at Constantinople in 1865, and at Paris in 1867. He was

created Earl Lyons in 1887, but the title became extinct at his death.

Lyons, Gulf of, *see* LIONS, GULF OF.

Lyra (the Harp), one of the old constellations, representing the lyre of Mercury (Aratus), of Mercury or of Orpheus (Hyginus). It is surrounded by Cygnus, Aquila, Hercules, and the head of Draco. Its brightest star, α Lyræ, also called Vega, is of magnitude 0·1, being the third brightest star in the sky. Its proper motion is 35″ per century. If a line be drawn through the middle of Cassiopeia, the pole-star, and the middle of Ursa Major, this star may be seen nearly in [illegible] t line drawn [illegible] When Aquila through its four neighbouring stars, θ, β, α, and γ, will pass through α Lyræ.

Lyre, the most ancient of the stringed instruments of music. Though associated for us so deeply with the ancient Greeks, who sang to its accompaniment the stories of the *Iliad* and the *Odyssey*, the lyre is probably of Asian origin. It was the instrument (*kinnôr*), played by David and by the exiles in Babylon. The Greeks attributed its invention to their Hermes who struck sounds from the dried cartilages of a tortoise shell he picked up on the banks of the Nile. The L. consists of a hollow sound-chest surmounted by two branching horns joined by a cross-bar to which the cords were attached. A *plectrum* of ivory or polished wood was used to touch the cords which were of gut. The Greeks used tortoise-shells from India for their sound-chests, whence the name *chelys* (tortoise); the frame-work of the Egyptian L. was of wood. The troubadours accompanied their songs with the L. The *cithara* and the *phorminx* are often included in the term.

Lyre-birds, members of the passerine family Menuridæ, which inhabit the forests and bush-districts of Australia. They are large birds with very stout beaks and short rounded wings; the tail has 16 rectrices, and in the males of some species the exterior pair of feathers are curved in the shape of a lyre; the tail of the female is long, broad, and normal in shape. L. live in the thick undergrowth, or sandy gullies of forests, and feed upon insects, worms, and molluscs; they rarely fly, but run or strut with the tail spread horizontally. *Menura superba* is 33 in. long, and of a brownish colour, with blue tinges; *M. victoriæ* has notch-like markings on the outer rectrices: and *M. alberti* is of a warmer, reddish colour.

Lyric (Gk. λύρα, a musical instrument with seven strings). Lyrical poetry among the ancient Greeks was so called because it was sung or recited to the accompaniment of the lyre. A L. was, and is to-day, a poem of passion, and therefore particularly suited to the form of musical utterance. Its earliest and most primitive form is the folk-song, where the musical element is inseparable from the words. Mr. Sharpe, the well-known English folklorist, asserts that the music and the words of a folk-song evolve together and are bound together by one common thought, so that only the one form of music gives suitable expression to the words. The Greeks distinguished τὰ ἔπη, things spoken, in poetry, from τὰ μέλη, things sung, applying the former to narrative and heroic poetry, which celebrated great deeds of national significance, and the latter to songs, which reflected the emotions of men, feelings of love, friendship, hate, grief, revenge, Bacchanalian joy. Dramatic poetry combined the two elements, epic and lyric. L. poetry took the form of the μέλος, or song of a single poet, giving vent to his personal sentiment, as represented by the work of Sappho and Alcæus, and also of the song in unison sung by a χορός, or troop of singers, as represented by the work of Pindar and the Bacchylides, as well as by choral elements in the Greek drama. The communal element of lyrical poetry has almost passed away. The chorus is no longer employed by the modern dramatists, and the L. is regarded as the personal expression of the poet. In early English poetry the L. is still connected inseparably with musical utterance. The Anglo-Saxon bard was a *minstrel* or *gleeman*. In *Beowulf* we hear again and again of the lord's thane who sang to his harp lays of joy and sorrow before the heroes when the mead had been passed down the benches. The finest examples of the Old English L. which have come down to us are the fragment of the *Ruin*, the *Seafarer*, the *Wanderer*, the *Wife's Complaint*, the *Lover's Message*, and the *Complaint of Deor*. The author of the last-named poem has grasped the effectiveness of using a refrain. In these, the earliest forms of English L. poetry, the narrative and descriptive element still prevails over the purely L. The L. form was used with incomparable grace by Elizabethan poets, many of whom, like Drummond and Campion, attained to the first rank only in this one form. The purest L. is the outpouring of a poet's spirit in the moment of his highest inspiration. It is therefore natural that during the age of Elizabeth, an age for England of triumph and exultation, that some of the finest Ls. in our language should have

been composed. In its strictest sense, the L. deals with one single emotion. Hegel, in *Esthetik*, dwells on the *subjectivity* of the L. in contrast to the *objectivity* of the epic. But it is impossible to confine lyrical poetry to such limits as these definitions imply. Though poetry is seldom now written to be sung, it is generally held that a lyric should have a metrical form which suggests a musical setting. But frequently this metrical form is absent in poems, like *Tintern Abbey*, which in emotional quality are essentially lyrical. The odes of Dryden, Gray, and Collins are certainly not subjective, though in metrical form they are adapted to a musical interpretation. Most ballads, too, are primarily narrative poems, though their setting is often lyrical. Palgrave included among his collection Gray's *Elegy* and Wordsworth's *Ruth*, the one of which is a reflective and the other a narrative poem. The chief exponents of the religious L. in English literature are Milton, Herbert, Vaughan, Crashaw, and later Byron (*Hebrew Melodies*) and Moore (*Sacred Melodies*). Herrick as a metrist cannot be surpassed as a L. writer. His contemporary court poets, Lovelace, Suckling, Carew, etc., also show great metrical skill, but in general they lack the passion of sincerity of the Elizabethans and of later lyrical poets, such as Burns and Shelley. The patriotic spirit is finely represented by Cowper in *Toll for the Brave*, by Campbell in *Ye Mariners of England*, by Burns in *Scots wha' hae*, by Byron, Tennyson, Kipling, and many others. For love songs Burns cannot be excelled, while Shelley, in the ecstatic rapture of his song, is supreme. Consult Palgrave's *Golden Treasury*, 1861; Hegel, *Die Phänomenologie des Geistes* 1807; G. Saintsbury, *Seventeenth Century Lyrics*, 1892; J. and C. Masefield, [illegible] E. K. [illegible] 1907; *Living Authors*, 1909; and Ernest Rhys, *Lyric Poetry*, 1913.

Lys, or Leze, a riv. of France and Belgium, rises in the French dept. of Pas-de-Calais, and flows 130 m. N.E., joining the Scheldt at Ghent. It is navigable for about 100 m., and canalised for 44 m.

Lysander (Λύσανδρος), a Spartan soldier, was probably of servile origin, but his ability marked him out for great things, and in 407 B.C. he was chosen to command the fleet against the Athenians. Fixing his headquarters at Ephesus, he soon obtained great influence, not only with the Greek cities but also with Cyrus, who supplied him with large sums of money. He was, however, superseded by Callicratidas in 406, as the Athenian law did not permit the office of admiral to be held twice by the same man, but when Aracus was sent out in 405 as commander-in-chief, L. was made vice-admiral, being in reality invested with supreme command. It was in this year that he brought the Peloponnesian War to an end by the defeat and capture of the Athenian fleet off Ægospotami, and followed this up by seizing Athens in 404, destroying her long walls and the fortifications of the Piræus, and establishing the oligarchy known as the Thirty Tyrants. He was by this time the most powerful man in Greece, and began to conceive the idea of bringing about a change in the Spartan constitution by abolishing hereditary royalty and making the throne elective, but his enterprise was cut short by his death. He perished at Haliartus in 395, when commanding one of the Spartan armies in the Bœotian war.

Lysias (Λυσίας) (*c.* 458-378 B.C.), an Attic orator born at Athens, though his father was a Syracusan, Cephalus. At the age of fifteen he was sent with his brothers to Thurii in S. Italy, where he studied under the rhetorician Tisias. About 412 he returned to Athens, but was accused in 404 of being an enemy of the existing government, and was forced to flee to Megara. He went back to Athens, however, after the fall of the Thirty, and gave his time to the lucrative occupation of writing legal speeches for others, after obtaining high repute as an orator, in 403, by his accusation of Eratosthenes, the murderer of his brother. L. wrote a great number of orations, but only about thrity-five are extant, and of these perhaps not all are genuine, and the only one delivered by him in person was that against Eratosthenes. He is the first really classical orator of the Greeks, and his speeches are remarkable for the purity and simplicity of their language, the skill shown in always adapting style to subject, the lucidity of their description, and above all for their striking delineations of character.

Lysimachus (360-281 B.C.), a Greek general under Alexander, was a Macedonian by birth, and was early promoted to attendance on the king. After the death of Alexander, Thrace and the neighbouring countries as far as the Danube were assigned to L., who extended his kingdom still further and founded the city of Lysimachia on the Hellespont. In conjunction with Seleucus he defeated the combined armies of Antigonus and Demetrius at Ipsus (301 B.C.). He obtained possession of Macedonia (286 B.C.), and retained

it until his death, which occurred on the plain of Corus, during a battle against Seleucus.

Lysippus (*c.* 336-270 B.C.), a famous Greek sculptor, was originally a workman in bronze, and most of his statues were executed in that medium. He was the first to introduce portrait sculpture, and made many representations of Alexander the Great. None of his works are now extant.

Lys-les-Lannoy, a com. in France, dept. Nord, 7 m. N.E. of Lille. Pop. 6500.

Lyte, Henry Francis (1793-1847), a Scottish hymn-writer, born at Ednam, near Kelso. He entered holy orders, and held several curacies; afterwards he had charge of Lower Brixham for twenty-five years. His health compelled him to reside abroad, and he died at Nice, and is buried there in the English cemetery. L. is the author of *Abide with me; Praise, my soul, the King of Heaven*, and other well-known hymns.

Lytham, a par. and tn. of Lancashire, England, on the R. Ribble, 6¼ m. S.E. by S. of Blackpool. L. is a favourite watering-place, and has a pier 900 ft. long. Pop. (1911) 9464.

Lythraceæ, a natural order of herbs, shrubs, and trees with four-angled branches, and flowers in axillary or terminal spikes or racemes; the calyx is tubular and the petals inserted between its outer lobes. There are two British genera, *Peplis*, water purslane, and *Lythrum*, purple loosestrife, but most members of the order are tropical. Many possess astringent properties and are used in dyeing, particularly morocco leather.

Lythrum, a genus of hardy perennials. The calyx is cylindrical with twelve divisions alternately smaller, and the petals are minute and fugaceous. *L. salicaria*, the common purple loosestrife or willow weed, is a handsome British plant, common on the banks of rivers and ditches. This plant exhibits a remarkable variation in the length of the style, which was investigated by Darwin. The only other British species is *L. Hyssopifolia*, a smaller pink-flowered prostrate plant.

Lyttelton, a port of S. Island, New Zealand, 5 m. S.E. by E. of Christchurch. The entrance to the harbour is more than 2 m. wide, and is protected by two breakwaters. There is a lighthouse at Godley Head, on the N.W., visible 29 m. Pop. 4000.

Lyttelton, Right Hon. Alfred, P.C., M.A., K.C., F.R.C.I. (1857-1913), the eighth son of the fourth Lord L., was educated at Eton and Trinity College, Cambridge. He was legal private secretary to Sir H. James; Attorney-General from 1882-86; Recorder of Oxford from 1894-95, Recorder of Hereford from 1895-1903, and was made a bencher of the Inner Temple in 1899. In 1895 he was elected member of parliament for Leamington, in the Liberal-Unionist interest, and held this seat until 1906, after which he became member for St. George's, Hanover Square. From 1903-5 he was Secretary of State to the Colonies, and was subject to much criticism on his conduct of S. African affairs. He was a famous athlete in his day, playing cricket and football for England. He was also tennis champion (1882-95).

Lyttelton, Rev. Hon. Edward, M.A., D.D. (*b.* 1855), seventh son of the fourth Lord L., born in London, and educated at Eton and Trinity College, Cambridge. He was headmaster of Haileybury from 1890-1905, when he became headmaster of Eton. He has published books and pamphlets dealing with various subjects, cricket, the training of the young, etc., and also a series of studies on the Sermon on the Mount.

Lyttelton, George, first Baron Lyttelton (1709-73), the eldest son of Sir Thomas Lyttelton, Bart., of Hagley, Worcestershire. In 1735 he entered the House of Commons as member for Okehampton, and soon acquired considerable reputation as an orator and statesman. He held many important offices, and was raised to the peerage in 1756. Lord L. was esteemed as a writer, and produced many volumes of poetical and historical works. His memoirs and correspondence were published in 1845.

Lyttelton, George William, fourth Baron (1817-76), an English statesman and scholar, born in London. In 1846 he became Under-Secretary of State. He took a great interest in the education and training of the lower classes, and an active part in the formation of night schools. He was chairman of the Canterbury Association, which sent Church of England colonists to New Zealand, the seaport, Lyttleton, being so-called in his honour. He has held the positions of principal of Queen's College, Birmingham, founder of the Saltley Training School, chief commissioner of endowed schools, etc., and has published lectures on colonial matters, and translations into Latin and Greek. *See* Gladstone, *Brief Memorials of Lord Lyttelton*, 1876.

Lyttelton, Gen. Hon. Sir Neville Gerald, C.B. (*b.* 1845), third son of the fourth Lord L., born at Hagley, Worcestershire, and educated at Eton. In

1865 he entered the rifle brigade, with which he served in Canada, India, and England. He was A.D.C. to Lord Spencer; viceroy of Ireland (1868-73); military secretary to Sir John Adye, governor of Gibraltar (1883-85), and to Lord Reay, governor of Bombay (1885-90). He served in the Fenian rebellion, Canada, in 1866; in the Jowaki expedition in 1877, and in the Egyptian campaign of 1882, his gallantry at the battle of Tel-el-Kebir winning for him the brevet of lieut.-colonel. He was also present at the battle of Khartoum, and thus attained the rank of major-general. He entered the War Office in 1895, and afterwards served throughout the S. African War, being commander of the forces (1902-4). From 1908-12 he held the post of general officer commanding-in-chief the forces in Ireland. He became governor of the Royal Hospital, Chelsea, in 1912.

Lyttelton, Thomas, second Baron Lyttelton (1744-79), commonly called the wicked Lord L., was born at Hagley, Worcestershire. He had considerable [illegible] terature, but occasioned a [illegible] and friends. In 1768 he became member of parliament for Bewdley, Worcestershire, but was unseated on petition (1769). On his father's death in 1774 he entered the House of Lords. His own death was preceded by a dream foretelling the event, which was the cause of much controversy.

Lytton, Edward George Earle Lytton Bulwer, first Baron Lytton (1803-73), a novelist, playwright, and statesman, was a man of unusual versatility, and succeeded in most of the tasks he set himself. He was educated at a private school, and afterwards at Trinity College, Cambridge, where he greatly distinguished himself. Finding it necessary after his marriage to augment his income, he took up his pen, and, after contributing to many periodicals, turned to novel-writing. *Falkland* appeared in 1827, and in the following year he published *Pelham*, an excellent and amusing book, and *The Disowned*. *Eugene Aram* was issued in 1832; *The Last Days of Pompeii* in 1834, and *Rienzi* in 1835. In 1838 *The Lady of Lyons* was produced at Covent Garden, and his other successful plays were *Richelieu* (1839) and *Money* (1840). His popular historical novel, *The Last of the Barons* came out in 1843, and five years later was followed by *Harold*. L. had been in parliament since 1831, and became (1858-59) Secretary of State for the Colonies. He was raised to the peerage in 1866. Of his other books the best were *The Caxtons*, 1850, in which the influence of Sterne is very clearly to be discerned, *A Strange Story*, 1862, *The Coming Race*, 1871, *Kenelm Chillingby*, 1873, and *The Parisians*, 1873, unfortunately incomplete. L. won his spurs in many departments of novel-writing. He had a keen sense of character, a sufficiency of historical love, a knowledge of life and society, and all these qualities he impressed into his service. There is a biography by Escott (1910).

Lytton, Edward Robert Bulwer, first Earl of Lytton (1831-91), a statesman and poet, son of Bulwer-Lytton, first Baron L., the novelist, entered public life as private secretary to his uncle, Lord Dalling, at Washington and Florence. He was subsequently attaché at the Hague and Vienna, at which last city in 1862 he was second secretary of the legation. He served at Copenhagen (1863), Athens (1864), Lisbon (1865), and at Madrid and Vienna (1868-72), becoming in the last year secretary to the Paris embassy. He succeeded to his father's barony in 1873, and went out to India as viceroy (1876-80), when in 1877 he proclaimed Queen Victoria as Empress. On his return he was raised to the earldom. From 1887-91 he was ambassador at Paris. Like all the Ls. he had a love of literature, and in 1855, under the pseudonym of 'Owen Meredith,' he published *Clytemnestra* and other poems, *The Wanderer*, in 1857, and *Lucile*, three years later. *Chronicles and Characters* appeared in 1868, and *Orval, or The Fool of Time*, in 1869. His poetry was always much admired, and he had a lyrical gift, though some of his longer pieces were somewhat dull. *King Poppy* (published posthumously, 1892) is usually regarded as his masterpiece.

M

M, the thirteenth letter in the alphabets of Western Europe, and occurs in the alphabets of Phœnicia, Greece, and Rome. Originally it was written from right to left, and in Crete and Cumæ was drawn with five strokes, so—ΜΜ. Like *b*, to which it is closely related, it is pronounced with both lips (bi-labial). Curiously enough, *b* is sometimes slipped in after *m*, as in the Greek *μεσημβρία*, noon, and the French *nombre* (from Lat. *numerus*, number). Unlike *b*, however, *m* is nasal.

M, used by the Romans for the numeral 1000. Their word for mile was *mille passus* (a thousand paces), and the initial letter became a symbol for the number. *See* ABBREVIATIONS.

Maartens, Maarten Joost (*b.* 1858), a Dutch novelist, born in Amsterdam. He writes in English, and in his first novel, *The Sin of Joost Avelingh* (1890), gives an [illegible] picture of Dutch manners. [illegible] k *Old Maid's* [illegible] *tions* (1903), have also [illegible]

Maas, *see* MEUSE.

Maasbree, a tn. 11½ m. N.N.E. of Roermond in the prov. of Limburg, Netherlands. Pop. 8775.

Maasejck, or Maeseyck, a tn. on the Meuse, 10½ m. S.W. by W. of Roermond in Limburg, Holland. The brothers Van Eyck were born here. Pop. 4600.

Maasin, a port which exports hemp, copra, and tobacco, at the mouth of the Maasin, on the S.W. of the island of Leyte in the Philippine Islands. Pop. 21,638.

Maassluis, a port for herring-fishing, on the Nieuwe Waterweg, 10¼ m. W. of Rotterdam in Holland. Pop. 9175.

Maastricht, or Maestricht (ancient *Trajectus Superior*, upper ford), the cap. of the prov. of Limburg, Holland. It lies 19 m. N.N.E. of Liège by rail, and except for the suburb, Wijk, which is reached by a stone bridge, is situated on the l. b. of the Maas. There are metal works and manufactories of wine, beer, earthenware, paper, and cigars, etc. Pop 37,483.

Mab, Queen, the q [illegible] fairies according to th [illegible] of Drayton and the [illegible] Herrick, and, therefore, the wife of Oberon. But Shakespeare, in *Midsummer Night's Dream*, gives that honour to Titania.

Maba, a genus of evergreen shrubs, sometimes grown in the stovehouse. *M. buxifolia* bears yellow flowers, somewhat campanulate in form. Its berries are eaten by the natives of India. The dark coloured wood is hard and durable.

Mabalakat, a tn. connected by rail with S. Fernando, which lies to the S.S.E., in Pampanga, Luzon, the Philippine Islands. Pop. 10,000.

Mabillon, Jean (1632–1707), a French historian, entered the Benedictine order in 1653, and from 1664 onwards was deeply engaged in editing a colossal number of manuscripts at the abbey of Saint-Germain-des-Prés in Paris. The result of his investigations was his *Acta Sanctorum ordinis S. Benedicti* (1668-1701), a monumental history of the order. His [illegible] tled *De Re Diplo-* [illegible] as interested other his own.

Mabinogion, The, is another name for the *Red Book*, which was translated into English and edited by Lady Charlotte Guest in 1838-49. The *Red Book of Hergest* is an invaluable manuscript, now preserved in Jesus College, Oxford, and containing eleven prose tales of Welsh literature and also a romance entitled *Hanes Taliessin*. The manuscript belongs to the 14th and early 15th centuries. Three of the stories, *The Lady of the Fountain*, *Peredur*, and *Geraint*, deal with the Arthurian legend. *Kilhwch and Olwen* and the *Dream of Rhonabwy* are termed mixed romances, as in them Irish mythology and the deeds of Arthur are freely intermingled. *Pwyll*, *Branwen*, *Manawyddan*, and *Math* are purely Irish in origin. The remaining two stories, *Lludd and Llevelys* and *Maxen Wledic*, refer apparently to the period of Roman settlements in Britain.

Mablethorpe, a favourite seaside resort on the North Sea, 7 m. N.N.E. of Alford, E. Lincolnshire, England. The architecture of the church (rebuilt in 1714) is partly Early English. Pop. (1911) 934.

Mably, Gabriel Bonnot de (1709-85), a French writer, acted as secretary to his uncle, Cardinal Tencin, [illegible] V.'s foreign minister, [illegible] ended in separation. [illegible] *des Romains et des François* (1740) he frankly urges the superiority of the ancients.

Mabuse, John (*c.* 1470–1532), a Flemish painter, was really Jan Gossært, but was called Mabuse from his birthplace, Maubeuge. The style of his 'Adoration of the Magi' in the National Gallery, London, and the 'Upright Judges' in Antwerp are in his early and purely Flemish style, but his triptych of 'Adam and Eve' (1516) in the Berlin Gallery shows the influence of his sojourn in Italy. Thither he went in 1508 in the company of Philip of Burgundy, his patron, and there he copied the masterpieces of Leonardo da Vinci and Michelangelo.

Mac, a Gaelic prefix signifying 'son of,' like the Norman 'Fitz' in Fitzmaurice, the Irish 'O'' in O'Grady, and the Welsh 'Map' or ''Ap' in ApRichard ('Prichard). MacGregor and MacLean are common examples. A confusion with 'magnus' probably accounts for the meaning of 'great' which 'Mac' sometimes seems to bear.

Macadam, John Loudon (1756-1836), a Scottish inventor, has given his name to a process of road-making which consists in crushing layers of small broken stones till they offer a hard smooth surface suitable for traffic. In 1816 he successfully 'macadamised' the Bristol roads. He was appointed surveyor-general of metropolitan roads in 1827 and granted £10,000.

Macacus, a genus of monkeys, the most interesting of which is *M. Inuus*, the Barbary ape (*q.v.*), which is the only monkey still living in a wild state in Europe. Members of the genus have the tail long, and generally also cheek pouches and naked callosities.

McAlester, a tn. of the Choctaws, Oklahoma, U.S.A. Pop. (1910) 12,954.

Macalister, Sir Donald (*b.* 1854), a Scottish physician, graduated as senior wrangler and first Smith's prizeman from St. John's College, Cambridge, in 1877, and afterwards took his M.A. and M.D. degrees. He has lectured at the Royal College of Physicians; examined for Cambridge and London universities; held the Linacre lectureship of physic at his own university; served as president of the General Medical Council and as vice-president of the International Congress of Hygiene in London (1907); and since 1907 has been principal and vice-chancellor of Glasgow University. Amid his manifold activities he has found time to publish *The Practitioner* (1882-94), and several important monographs.

M'All Mission, was founded in 1872 by the Rev. Robert M'All (1813) in Paris, under the 'Mission Populaire Evangélique de France.' It is the largest Protestant mission in that country, and has held as many as 15,000 meetings in one year. There are now centres in America and in the British Isles.

Macao (Chinese *A-Ma-ngao*, harbour of the goddess A-Ma), a Portuguese dependency in China. It lies on a peninsula flanking the western side of the mouth of the Canton R., and with its gaily-painted level roofs presents an attractive appearance to European eyes. The inhabitants, practically the whole of whom are Chinese, are engaged mostly in the tea trade, but opium, rice, silk, fish, and raw cotton are exchanged with Hong-Kong, Goa, and Canton, etc. With Timor it is the see of a Roman Catholic bishop. Portuguese factors settled here as early as 1557. Pop. 64,000.

Macaroni (Lat. *macerare*, to bruise), a form of wheat paste whose manufacture was for a long time exclusively confined to Italy, where it is an important article of diet. A particular variety of wheat is required for this purpose, *i.e.* the hard kind which contains a large percentage of gluten. At one time the M. was made by hand, but this practice has been superseded by machinery. The wheat is ground into a *semola*, or coarse meal, from which the bran is removed; this is worked into a dough with water, and afterwards forced through a cylinder, generally into tube shapes, but also into sheets, etc. Vermicelli differs from M. only in thickness and shape.

Macaronic Verse, a species of burlesque, the humour of which depends partly on tagging Latin suffixes on to all the words so as to suggest the dignity of Latin poems, and thus turn the rhyme into a mock-heroic. Two lines are quoted from *Polemo-Middinia* (1684), which is attributed to Drummond of Hawthornden, to indicate the effect produced:

'Maggœam, magis doctam, milkare cowœas,
Et doctam sweepare flooras, et sternere beddas.'

The *Liber Macaronices* of Teofilo Folengo, who first popularised this amusing device, appeared in 1517. The author was a dissolute Benedictine monk, who explains that his doggerel, like the native macaroni, is nothing but a rude hotch-potch. The French classic writer of such verse is Antonius de Arena (*d.* 1544).

Macaronis were dandies and exquisites of London, who flourished about 1772 and were known by the [illegible] of their dress and more [illegible] their amazing wigs. [illegible]s fortunately had a short reign.

Macaroon, a biscuit made of eggs, sugar, and finely crushed almonds. The name is derived, like 'macaroni,' from It. *maccare*, to bruise.

Macarsca, or **Makarska** (Rom. *Mocrum*), a port, 32 m. E. of Spalato, in Dalmatia, Austria. Pop. 12,155.

. Earl
and
for
Ireland from 1769-72, and sat in the Irish parliament. For two successive periods of five years (1775-85) he was governor of Granada and Madras respectively. As envoy extraordinary to Russia he negotiated a commercial treaty in 1767. In 1792 he was sent as plenipotentiary to China.

Macartney, Sir Halliday (1833-1906), an English physician and diplomat, took his M.D. degree at Edinburgh University in 1858. For four years (1858-62) he worked in the army medical department, and after serving in the Chinese War (1860) and later against the Taipings, was appointed director of the imperial arsenal at Nankin. From 1876 onwards he was secretary to the Chinese embassy in London.

Macassar, or **Mangkasar**, the cap. of a dist. of the same name in Southern Celebes, Dutch E. Indies. It is made up of the Dutch port (Vlaardingen) and the Malay city, which lies back from the shore. Its annual commerce in trepang, coffee, copra, and spices, etc., amounts to £1,500,000. Pop. 18,000.

Macassar, Strait of, separates the islands of Celebes and Borneo, Dutch E. Indies.

Macato, pueblo, in the N. of Panay Is., prov. of Capiz, Philippines. Pop. 10,000.

3-91), an
History of
James I.
ne (1763-
83) which won general admiration. She met Turgot and Franklin in Paris (1777), stayed ten days with Washington at Mount Vernon (1785), was teased by Dr. Johnson, and described by Lecky as 'the ablest writer of the new radical school.'

M
to
Za
18
Edinburgh Review, when his essay on Milton appeared. He soon became one of the most valued writers for that periodical, with which his connection endured for many y
He entered parliament in 1830,
two years later was appointe
commissioner, and a year
secretary of the Board of Cor
In 1834, tempted by the large salary that would enable him to save enough to support himself for the rest of his life, he accepted an appointment as a member of the supreme council of India, and he stayed in that country for five years. During his exile he assisted in preparing a criminal code for India, which did not, however, become law until the year after his death. On his return to England he was returned to parliament as member for Edinburgh, and in 1839 became Secretary of War, which office he held for two years. Edinburgh rejected him in 1847, but made amends by electing him in 1852. M. did not neglect his literary labours. He published *Lays of Ancient Rome* in 1842, and in the following years revised some of his *Edinburgh Review* articles for publication in book form. Since 1839 he had been at work on his *History of England*, which was to deal with the period from the Revolution to the death of George III.; but it was not until 1848 that the first two volumes appeared, volumes three and four being published seven years later, and the fifth posthumously (1881). The *History* was received with a chorus of praise. Its sale was enormous, and it was everywhere eagerly discussed. Its vivid style made it eminently readable, and for that people overlooked the Whig bias that everywhere dominated it. A
t in, and M.'s
were under-
into his own,
but it cannot be said that his work is reliable, and while it has great and undoubted merits, his 'purple patches' are on the whole rather 'irritating' to the present-day reader. M. was raised to the peerage in 1857, and was buried in Westminster Abbey two years later. His *Life and Letters*, one of the classic biographies, was written by his nephew, Sir George Otto Trevelyan, 1876.

Macaw, a general name for large brilliantly-coloured parrots of the genus *Ara*, natives of S. America. Their cry is unpleasantly harsh, and they are less docile than the true parrots.

Macaw Tree, a name given to several species of *Acrocomia*, a S. American genus of palms, with an elegant tuft of huge pinnate leaves at the top of the tall prickly trunks.

Macbeth, King of Scotland, the date of whose birth is unknown, was the son of Findlaech, and hereditary ruler of Moray and Ross. In 1040 he
an, the successor of
ecame king of Scot-
claim to the throne
Gruach. According
his reign was pros-
perous, and M. a benefactor; he made

a pilgrimage to Rome in 1050. In 1054 he was defeated by Siward at Dunsinane (Perthshire), and in 1057 defeated and slain by Siward and Malcolm, the [illegible] phanan in speare's trag on his life.

[illegible] The Books of the, certain which only importance.

I. Maccabees begins with a sketch of the conquests of Alexander the Great and the oppression which the Jews suffered from Antiochus Epiphanes. It then continues with a history of the [illegible] from [illegible] unti The (1) the period in which Judas Maccabees was leader; (2) chaps. ix. 23–xii. 53, dealing with Jonathan; and 18, under the The work then telling of the accession of Hyrcanus, and referring to chronicles of his priesthood.'

Maccabees was originally written in Hebrew, but only Greek versions are extant. The author was a patriotic Jew of unknown name. The date of its composition must be between 135 and 63 B.C., probably at the very beginning of this period. It may even have been commenced at an earlier date. *II. Maccabees* is a late composition of inferior historical value. It begins with two letters purporting to be addressed by the Jews of Jerusalem to those in Egypt. It then gives an account of the wars of the Maccabees from about 176-161 B.C., covering about the same ground as the first seven chapters of I. Maccabees. The author does not claim great accuracy, and speaks of his work as the epitome of a larger work by a certain Jason of Cyrene. It is much later than I. Maccabees, though before 70 A.D. *III. Maccabees* and *IV. Maccabees* are not strictly historical. The former deals with the period of Ptolemy Philopator, and the latter is better described by its sub-title, The Sovereignty of Reason.

Maccabees, The, or The Hasmoneans, a Jewish family, who led the struggle for independence against the Syrian power in the 2nd century B.C. For details see under the names of the individual members of the family—MATTATHIAS, JUDAS, JONATHAN, SIMON, and JOHN HYRCANUS.

Maccaluba, the name of a group of mud volcanoes in Sicily, 6 m. N. of Girgenti. The name is often used as a general term for such volcanoes.

MacCarthy, Denis Florence (1817-82), an Irish poet, born in Dublin. His earlier verses appeared in the *Dublin Satirist*, and by 1843 he was a regular contributor to the *Nation*. He received a medal from the Royal Spanish Academy for translating Calderon's dramas; he had previously been granted a Civil List pension. Among his works may be mentioned, *Ballads, Poems, and Lyrics*, 1850, a very popular work; *The Bellfounder*, 1857; [illegible] 1857; and *Ear*

M'Car [illegible] Irish hi and pol 1864-68. [illegible] *Star*, having previously been a reporter. He was Home Rule member for Longford co. from 1879-85, for N. Longford from 1885-86, and from 1892-1900, and for Londonderry from 1886-92. On the fall of Parnell in 1892, he became chairman of the Home Rule party, a post which he held until 1896. For many years, from [illegible] [illegible] *Georges and William IV.*, 1854-1901; *Epoch of Reform*, 1874; *Modern England*, 1899; and *Rome in Ireland*, 1904. His novels, which are numerous, include: *My Enemy's Daughter*, 1869; *Lady Judith*, 1871; *A Fair Saxon*, 1873; *Camiola*, 1885, and in collaboration with Mrs. Campbell Praed, *The Right Honourable*, 1886; *The Rebel Rose*, 1887; and *The Ladies Gallery*, 1888. He also wrote a volume of essays entitled *Con Amore*, 1868, and published his *Reminiscences* in 1899.

M'Carthy, Justin Huntly (*b.* 1860), an English dramatist, novelist, and historian. From 1884-92 he was member of parliament, and has travelled much in Egypt, the Holy Land, and the United States. Among his numerous works may be mentioned: *A London Legend; If I were King; Ireland since the Union; Sketches of Irish History*, 1887; *A History of England under Gladstone*, 1885, etc.

M'Cheyne, Robert Murray (1813-43), a Scottish divine, born at Edinburgh, and educated at Edinburgh University and Divinity Hall. His journey to Palestine in connection with a mission to the Jews, and a religious revival at his own church in Dundee, convinced him that his mission was as an evangelist, but he died before he could carry out his plans. His *Memoirs and Remains*, edited by Rev. A. A. Bonar (new ed., 1913), had at one time a great influence, running through 100 English editions.

Macchiavelli, *see* MACHIAVELLI.

Macclesfield, a municipal bor. and market tn. of Cheshire, England, 17 m. S.S.E. of Manchester. It is the chief silk-manufacturing centre of England, producing all kinds of plain and fancy ribbons, etc.; there are also breweries and coal mines, and slate is quarried in the vicinity. Pop. (1911) 34,804.

M'Clintock, Sir Francis Leopold (1819-1907), a British explorer and admiral, born at Dundalk in Ireland, and entered the navy in 1831. He first went to the Arctic regions in 1848 with Sir James Ross; his most famous achievement was ascertaining the fate of Sir John Franklin on his expedition with the *Fox* in 1857. On his return he was knighted; he was made naval aide-de-camp to Queen Victoria, vice-admiral in 1877, and K.C.B. in 1891. He described his expedition in *The Voyage of the Fox*, published in 1859.

MacClintok Island, in Franz-Josef Land in the Arctic regions.

M'Clure, Sir Robert John le I. (1807-73), an explorer, was [illegible] of Wexford, Ireland. In [illegible] joined the navy, and in 1836 went on Captain Back's expedition to the Arctic regions. In 1848 he accompanied Ross to the Arctic, and in 1850 went on his third expedition as commander of the *Investigator*. During this expedition he was successful in journeying through the North-West Passage.

M'Clure's Magazine, was founded in America in 1893 by Mr. S. M'Clure. It counts Robert Louis Stevenson, J. M. Barrie, Rudyard Kipling, Dean Farrer and many other writers of equal distinction among its contributors. Miss Tarbell's *History of the Standard Oil Company*, which at the time created such a sensation, first appeared in this monthly, whilst it has also published an excellent *Life of Lincoln*.

MacColl, Malcolm (1838-1907), an Anglican divine and author, born at Glenfinnan, Inverness-shire, Scotland. Among his [illegible] be mention [illegible] British An[illegible] burg, 1862 [illegible] London, and canon of Ripon Cathedral, 1884. He was the author of [illegible] *...ile*, 7; [illegible] is-

sippi, U.S.A., 95 m. N.E. of New Orleans. It is engaged in the cotton manuf. Pop. (1910) 6237.

MacCormac, Sir William (1836-1901), a surgeon, born in Ireland. During the Franco-German War of 1870-71 he was attached to the Anglo-American Association, and some years after his return to London became lecturer at St. Thomas' Hospital and surgeon to various other hospitals. During the S. African War of 1899-1902 he acted as surgeon to the troops, and in 1901 was made sergeant-surgeon to King Edward VII. Among his literary works are: *Notes and Recollections of an Ambulance Surgeon*, 1870, and *Surgical Operations*, 1885 and 1889.

M'Cosh, James (1811-94), a Scottish philosopher, born at Carskeoch, Ayrshire. In 1835 he became a minister at Arbroath and in 1839 at Brechin. In 1851 he was made professor of logic and metaphysics at Queen's College, Belfast, and from 1868-88 was president of Princeton College, New Jersey, U.S.A. The principle on which he based his theology was chiefly that of intuition, and he was quite opposed [illegible] His writings [illegible] *of the Divine and Moral*, *Mr. J. S. Mill's Philosophy*, 1866, *Realistic Philosophy*, 1887; *First and Fundamental Truths*, 1889.

M'Crie, Thomas (1772-1835), a Scottish clergyman and writer, born at Duns. His works deal chiefly with ecclesiastical history in Scotland and other countries, his chief being: *Life of John Knox*, 1812; *Life of Andrew Melville*, 1819; *History of the Progress and Suppression of the Reformation in Spain in the 16th century*, 1829. See *Life* by his son, Thomas M., published in 1840.

M'Culloch, Horatio (1805-67), a [illegible] ...ter, a native [illegible] by painting [illegible] xhibited pic[illegible] n became an A.R.S.A., and in 1838 an R.S.A. He spent the latter years of his life in Edinburgh. His chief pictures are: 'Mist rising off the Mountains,' 'Deer Forest,' 'Loch-an-Eilan,' and 'Both[illegible] Castle.'

[illegible] och, James Melville (1801-83), [illegible] at St. Andrews University. [illegible] he master of a school in Dunkeld, and afterwards in Edinburgh, and was ordained to the ministry. He was appointed minister at Arbroath, then at Kelso, and finally of the W. parish of Greenock. He was the author of several works, among them *Pelas Juvenalis: a manual of devotion for schools and young persons*, 1838. See Memoir prefixed to *Sermons by J. M.* [illegible]

M'Culloch, S[illegible] politician, born [illegible] beginning his c[illegible] to Melbourne,

entered political life and eventually held the office of premier of Victoria.

MacCulloch, John (1773-1835), a geologist, born in Guernsey. He qualified as a surgeon, and was afterwards employed in research work on the geology of Scotland. He has written *A Description of the Western Isles of Scotland*, 1819, and *A System of Geology*, 1831.

M'Culloch, John Ramsay (1789-1864), an economist and statistician, born at Whithorn in Wigtownshire. He contributed to the *Scotsman* and the *Edinburgh Review*. Among his works are: *The Principles of Political Economy*, 1820; *A Statistical Account of the British Empire*, 1837; and *Dictionary of Commerce*, 1869.

MacCunn, Hamish (*b.* 1868), a musical composer, born in Greenock. He has acted as conductor to several
[illegible] nong his
[illegible] *Vilmeny*,
[illegible] and the
fountain
and the Flood.

Macdonald, Andrew (*c.* 1755-88), an author, and a minister of the Scottish Episcopalian Church. His works include novels, plays, and poetry, but owing to his want of management he was reduced to great poverty before his death, and figures in *The Calamities and Quarrels of Authors*, edited by Benjamin D'Israeli.

Macdonald, Col. Sir Claude Maxwell (*b.* 1852), a soldier and ambassador, served in 1882 in the Egyptian campaign, and in the Suakin expedition of 1884. From 1896-1900 he held the office of minister at Peking, and during the siege there had command of the legation quarters. In 1900 he was appointed ambassador in Japan.

Macdonald, Etienne Jacques Joseph Alexandre (1765-1840), Duke of Taranto, a marshal of France, born at Sedan. Having entered the army in about 1784 he was successful in his capture of the Dutch fleet in 1795. After withstanding Suvaroff in Italy he was defeated by him on the Trebia, but was again successful in 1800 by his march across the Splügen. In 1805, however, he fell into disfavour with Napoleon, but was restored in 1809, when he triumphed over the Austrians at Wagram—this service being rewarded by the title of marshal. He was in command in Spain in 1810, and was completely defeated by Blücher at Katzbach in 1813. See *Souvenirs du Maréchal Macdonald*, edited by M. C. Rousset, 1892.

Macdonald, Flora (1722-90), rescuer of Charles Stuart, born at Milton, S. Uist, Hebrides. After the battle of Culloden (1746), she was successful in helping 'the Pretender' to land in Skye, having disguised him as 'Betty Burke,' her maid. On account of this she was arrested and imprisoned, but was released in 1747, and three years later she married Macdonald of Kingsburgh. They afterwards went to America, and Flora, who returned alone to Scotland, was joined later by her husband. *See* W. Jolly, *Flora Macdonald in Uist*, 1886; and Alexander MacGregor, *The Life of Flora Macdonald*, 1901.

Macdonald, George (1824-1905), a Scottish author, born at Huntly, Aberdeenshire. His first literary work was published in 1856. He is the author of *Poems*, 1857; *Phantastes, a Faerie Romance*, 1858; and of many novels, including: *David Elginbrod*, 1862; *Robert Falconer*, 1868; *Malcolm*, 1874; *The Marquis of Lossie*, 1877; and of children's books, such as *The Princess and the Goblin*, 1871. See *Life* by Rev. Joseph Johnson, 1905.

Macdonald, Sir Hector Archibald (1852-1903), a British soldier, who won for himself the soubriquet of 'Fighting Mac,' on account of his great bravery. He was born in humble circumstances at Muir of Allan Grange, Ross-shire, Scotland. He enlisted when only eighteen in the Gordon Highlanders. Taken prisoner at Majuba in the first Boer War (1881), General Joubert returned him his sword on account of his bravery. He took part in the Nile expedition (1885) under Sir Evelyn Wood. He distinguished himself in the Dongola expedition (1896) and gained a brilliant success in the decisive battle of Omdurman (1898), where he completely routed the Mahdi's troops. In the Transvaal War of 1899 he commanded the brigade during the Paardeberg, Bloemfontein, and Pretoria campaign under Lord Roberts, and was made K.C.B. in 1901. He committed suicide in Paris.

Macdonald, James Ramsay (*b.* 1866), M.P. (Labour) for Leicester since 1906, born at Lossiemouth, Elginshire. In 1900 he became secretary to the Labour party, and in 1911 he was elected leader. He was a member of the London County Council (1901-4), and chairman of the Independent Labour party (1906-9). Editor of the Socialist Library since 1905. His publications include: *Socialism and Society; Labour and the Empire; Socialism and Government; The Awakening of India; Socialism* (Social Problems Series); *The Socialist Movement* (Home University Library).

Macdonald, Sir John Alexander (1815-91), an able Canadian statesman whose bp. was in Glasgow, Scotland. He went to Canada with his parents when a child. After studying

at Kingston, he was called to the bar in 1836, and became Q.C. ten years later. He represented Kingston in the Canadian Assembly for a term of twenty-three years, and afterwards sat for Victoria, British Columbia. He became Attorney-General on more than one occasion.

Macdonnell, Antony Patrick, Baron (*b.* 1844), created Baron of Swinford in 1908. He entered the Indian service in 1865, and became acting chief commissioner in Burma in 1889. Other important posts which he has held are governor of N.W. Provinces, chief commissioner of Oudh (1895-1901). He was also acting lieutenant-governor o[illegible]

Macdonn[illegible], containing gold and ruby fields, situated in Central Australia immediately S. of the Tropic of Cancer.

M'Dougall, William (1822-1905), a Canadian statesman, whose bp. was Toronto. He was appointed judge in the prov. of Quebec, and it was due to his policy that the union of British N. America was effected.

MacDowell, Edward (1861-1907), a pianist and composer, of Scottish-Irish descent, born at New York. Coming to Europe in 1876, he studied at Paris, Stuttgart, and Wiesbaden, his principal teacher being Raff. In 1887 he returned to America and settled at Boston, nine years later becoming music professor at Columbia University, New York, a position which he retained until 1904. His writings for the pianoforte have been acclaimed as the finest since Schumann; they include four sonatas, two concertos, and a vast number of smaller works, of which the best known are the *Sea Pieces*, Op. 55; he also left some very beautiful songs, four symphonic poems, and two orchestral suites. His pianoforte works afford remarkable opportunities for experiments in tone-production. *See* Lawrence Gilman's *Edward MacDowell*.

M'Dowell, Irvin (1818 – 85), an American soldier, was made brigadier-general in 1861, but met with a reverse in the Virginian campaign, when he was defeated at Bull Run. He sustained another defeat a year later as major-general under General Pope at Second Bull Run.

Macduff, a port of Banffshire, Scotland; it is a popular seaside resort on account of the bathing facilities and bracing air. Herring fisheries and boat-building are the chief industries. Pop. (1911) 3411.

Macduff, Thane of, a character borrowed by Shakespeare from Holinshed's *Chronicles* for his tragedy *Macbeth*. In the play Macbeth murders Macduff's wife and children, but is slain by Macduff in the battle of Dunsinane.

Mace, The, a staff 5 ft. long, originally a weapon of defence, is now a symbol of office, as in parliament, the church, and universities, and is brought out on state occasions. The lord mayor's M. is set with pearls.

Mace, Jem (1831-1910), a famous English pugilist, born at Swaffham, Norfolk. There was a celebrated contest between him and Tom King in 1862, when the latter was beaten.

Macedonia, a portion of former Turkey in Europe. It is bounded on the N. by the Kara Dagh Mts. and Bulgaria, on the E. by the R. Mesta, [illegible] the S. by the Ægean and Greece, [illegible] westward by the Shar, Grammus, and Pindus ranges. It is now included in the vilayets of Monastir, Kossovo, Kortcha, and Salonica. The R. Vardar almost bisects M. and empties into the Gulf of Salonica. Other main streams are the Struma, Mesta, and Bistritza, which flow into the Ægean. The Rhodope, Shar, Grammus, Nija, Pindus, Perim Dagh, and Yaina-Bistra Mts. embrace many summits over 8000 ft. The climate is harsh. There are still some fine belts of forest on the mountain slopes. Excellent tobacco is grown, and figs, olives, and grain are also cultivated. Gold and silver used to be mined on the Bunar Dagh, and it is likely that enterprise will discover considerable mineral wealth. The chief town (and port) is Salonica, and after it come Monastir, Usküb, Serres, and [illegible]ominant popu[illegible]ut there are [illegible]st and in the [illegible] Roumanians, and Jews. The diminishing number of inhabitants has been roughly estimated at 2,250,000, over half of whom are Christians. M. fell a victim to the Turks in the early 15th century. When the reforms promised in the Treaty of Berlin (1878) were not forthcoming, the Bulgarian inhabitants formed the 'Internal Organisation' (1893), the watchword of which was 'Macedonia for the Macedonians.' Insurrections against Turkish misrule and the savage repressions which followed these insurrections, led to the interference of Austria and Russia, who extorted further pledges of reform from the obstinate Porte (1903). The vexed Macedonian question is still unsettled. *See* BALKAN WAR.

Maceio, a city of Brazil, cap. of the state Alagoas. Its port of Jaragua exports sugar, rum, and cotton. Pop. 33,000.

Mace of the Nutmeg, a blood-red lacerated membrane which contains a very fragrant oil. If expressed

the oil serves as a liniment, and if distilled it possesses the fragrance of mace.

Macer, Æmilius, a Roman jurist, who lived in the reign of Alexander Severus. He wrote several books, among which are: *De Appellationibus; De Re Militari; De Officio Præsidis; De Publicis Judiciis;* and *Ad Legem de Vicesima Hereditatum.*

Macerata, the cap. of the prov. of Macerata in the Marches, Italy, 22 m. S.W. of Ancona. The city is protected by a wall more than 2½ m. in circumference. It is the see of a bishop. Pop. 23,000.

Maceration, a process by which some of the constituents of plants are extracted by steeping the seeds, leaves, roots, etc., in a suitable solvent; there may be also a certain amount of breaking up of the fibres by mechanical means. The operation is adopted in the preparation of liqueurs, when the flavouring matters are extracted by steeping the plant in strong spirit, and in the preparation of perfumes, when the essential oils are extracted by treating the flowers or other parts with hot oil, the essential oils being afterwards dissolved out with alcohol.

Macewen, Sir William (*b.* 1848), a famous surgeon. He was knighted in 1902, and has been professor of surgery at Glasgow University since 1892. He is an honorary member of the principal European medical academies and surgical societies. Among his publications may be mentioned: *The Transplantation of Bone by Bone Grafting*, and *Osteotomy.*

Macfarren, Sir George Alexander (1813-87), a celebrated composer and writer on musical theory, born in London. He became professor of The [illegible] he is best known for his theoretical publications: *Rudiments of Harmony; Lectures on Harmony; Counterpoint;* and *A Musical History.*

McGarry, a tn. in Lanark co., Ontario, Canada, 12 m. S.W. of Smith's Falls; trade in wool and flour is carried on. Pop. 4100.

M'Gill, James (1744-1813), a philanthropist, who emigrated to Canada, where he settled down in Montreal as a fur merchant. He became a member of the Lower Canadian Assembly, and amongst many other philanthropic enterprises, he presented valuable lands to the M'Gill University.

Macgillicuddy's Reeks, a mountain range in Ireland, in the co. of Kerry; the highest peak is Carran-tual or Carntual (3414 ft.).

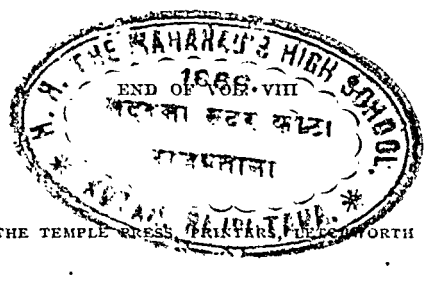
Macgillivray, James Pittendreigh (*b.* 1856), a sculptor, born at Port Elphinstone in Aberdeenshire. His sculptures include the Burns statue, the national memorial to Gladstone, and the John Knox Memorial.

MacGillivray, William (1796-1852), a Scottish naturalist. He held the post of curator in the museum of the Royal College of Surgeons, Edinburgh (1831-41); professor of botany and natural history in Marischal College, Aberdeen. He wrote a *History of British Birds; A Text Book of Botany;* and many other articles.

M'Gill University, a college in Montreal, Canada, which was endowed by James M'Gill with property then valued at £4000, but now realising a far greater sum on account of the considerable increase in the value of land. It has become a most flourishing institution under the direction of Sir William Dawson.

MacGregor, John (1825-92), an author and philanthropist, born at Gravesend, and was called to the bar in 1851. He contributed articles and sketches to *Punch* (1845). He [illegible] and built a canoe, in [illegible] journeyed up many Euro- [illegible]; his book, *A Thousand Rob Roy Canoe*, appeared [illegible] other similar narratives followed. The profits of his writings were given to various philanthropic schemes.

McGregor, Robert, *see* Rob Roy.



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